Stan's Kitchen • Kim Stanley Robinson

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Stan's Kitchen

A Robinson Reader

Kim Stanley Robinson

Kim Stanley Robinson is one of the most well-known SF writers in the world, applauded in non-SF circles for his grasp of vital ecological and political issues. His Mars trilogy, his Science in the Capital trilogy, and his recent novels *2312*, *Aurora*, *New York 2140*, and *Red Moon* are all modern SF classics, each exploring directions in which our world may be heading.

In this book, Stan offers you a rare treat, a selection of his favorite pieces of his own writing, which offers a unique view into important ideas within many of his areas of interest. Stan has chosen examples of his entertaining fiction, including a band disaster, an exploration of the idea of whether Vinland existed or not, how a curveball might work on Mars, and his final Mars story.

Also included are insightful and wide-ranging essays on Gene Wolfe, Cecelia Holland, Joanna Russ, Stanislaw Lem, George Orwell, Philip K. Dick, Ursula Le Guin, and Chip Delany that should make you want to run out to find and read *more* of their works.

You'll read of some of his optimistic and naturalistic visions of our world in essays on predicting the future, on utopias and dystopias, on his Antarctic adventures, on hiking experiences in the wild, and on the fight to name a mountain. This personal collection of prose and poetry is the next best thing to sitting in Stan's kitchen, sharing a cup of coffee and conversation with the master.

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Edited by David G. Grubbs

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This is book 321

to the memory of

Michael Blumlein

What's in My Pocket

Once during my year in Boston
I was walking alone at sunset by the Charles
The riverbank all covered with snow
The trees black spikes against the sky
The river's surface an orange gloss

Cold hand thrust into down jacket pocket
I felt a book I had left in there
Title forgotten just a book any book
But suddenly all I saw was joy

Contents

What's in My Pocket 5
Stan's Kitchen *An Introduction by Michael Blumlein* 11

The Part of Us That Loves 19
"A Story," by Kim S. Robinson 47
Notes for an Essay on Cecelia Holland 61
An Introduction to *The Female Man* by Joanna Russ 71
Lem in California 77
Animal Farm in 1992 83
An Introduction to *Ubik* by Philip K. Dick 89
Happy Birthday Ursula 95
Delany Considered 99
Vinland the Dream 115
Six Poems from *If Wang Wei Lived on Mars*: 125
- Crossing Mather Pass 127
- Invisible Owls 129
- Tenzing 131
- The Red's Lament 135
- A Report on the First Recorded Case of Areophagy 137
- Two Years 141

Discovering Life 145

How to Predict the Future 153
What Can't Happen Won't 161
Arthur Sternbach Brings the Curveball to Mars 171
Dystopia/Utopia 181
Enough Is As Good As a Feast 187
Source of the Peach Blossom Stream 191
Six Day Poems by the Widow Kang 193
Prometheus Unbound, at Last (And None Too Soon) 201
The Worst Journey in the World Revisited 205
Introduction to *In the Sierra: Mountain Writing by Kenneth Rexroth* . 223
Somewhat Lost 227
Naming Mount Thoreau 231
Kistenpass 245
Zürich 263
Oral Argument 273
Seven Shaman Songs 279
The Timpanist of the Berlin Philharmonic, April 1942 289
Pippilouette's Story 303

Acknowledgments 308
Sources 309

Stan's Kitchen

Stan's Kitchen

On the edge of one of San Francisco's more affluent neighborhoods, on a busy street, is a commercial development that goes by the name Laurel Village. As villages go, it's a small one, not much more than two blocks long. It was developed and named at a time when San Francisco was a city of separate, distinct neighborhoods, much more so than it is now. The name Laurel Village was a canny bit of marketing that recalled green glades and whispering meadows, a quiet, romantic nod to an idealized vision of country life; it played to the social, economic and racial characteristics of the surrounding neighborhood, which were overwhelmingly white, predominately well-educated, financially secure, religiously tolerant, and culturally centrist. In my childhood Laurel Village had everything a family-oriented, upscale neighborhood could want: two banks; two supermarkets; a bakery; a diner; a vinyl record store with listening booths; an ice cream shop; a fancy children's clothing store; a children's boot shop; and a Standard Five and Dime. There were other stores: all save the banks, the supermarkets, and the 5 & 10 are gone. In their place are new businesses, which in San Francisco's current gravity-defying building eruption, together occupy the same space, what we could call "the revolving door." The venerable Standard 5 & 10, now part of the Ace Hardware chain, has spawned a second store beside it, an overflow den devoted solely to kitchenware and cooking items. As a commercial venture, this is a no-brainer, given San Francisco's solipsistic lust, inventiveness and pride when it comes to food.

I discovered this store for the first time recently. Items were spilling from its doorway, as though the store had overeaten, its eyes too big for its stomach, and was disgorging what it couldn't digest. Or else, I thought, my mind drifting lazily, it had a message to convey, a story to tell that was much too big for its assigned space. A story that contained not only the physical items inside—the jars, bowls, cookie-cutters, knives,

aprons, measuring cups, serving spoons, and the like—but the conversations between these items, the subtle murmurings and catty asides, the friendships, the alliances, the jealousies, the politics. It was a story with many sub-stories: about kitchenware usage (right and wrong), design (substance and form), materials (science and technology), color, style, durability, personal preference and prejudice, to name just a few. In order to do justice to all these tales, the store needed to be twice its size. Fifty times. In book terms it needed—and wanted—to be a big, fat novel, or a series of novels, with multiple characters, themes, locales, and plot lines. A novel like *The Years of Rice and Salt*, or *2312*, or *New York 2140*, or the Mars Trilogy, or *Three Californias*, or really nearly everything Kim Stanley Robinson has written.

The name of this store, teeming with items essential to the craft and the art at hand? Here's a hint: The hand-painted sign shows a smiling chef in a tall baker's hat, wielding a whisk. His eyes are buoyant and bright. He seems to be juggling a rolling pin and two serving spoons, while presenting us with a perfectly baked and iced, candlelit birthday cake.

Beside the man is the name of the store: Stan's Kitchen.

That's it. Stan's Kitchen. No joke, but a great punch line.

I shouldn't have been surprised. But I was, enough to snap a photo and send it to Stan, who replied: Ha! Very nice.

Very nice indeed.

Naturally, I went inside and took notes, and more pictures, already composing metaphors in my mind linking nesting bowls, immersion blenders, cookie cutters and rice cookers with Stan's writing, easily done, as he truly is a Master Chef, mindful of ingredients (always carefully researched), alert to savory figures of speech, though most concerned with the final product, the Big Picture. I was elated at having found a fun, writerly way into this homage.

That was then. I've since realized that metaphors are unnecessary, even risky, as they're open to interpretation. Much better to be blunt and direct. A dull blade, after all, is still a blade. A pencil is still a pencil, even when worn to a nub by millions of words.

(At last count Stan Robinson has written in the range of five million words, many of these by hand on a notepad, which he steadfastly continued to use for first drafts long after the coming of the laptop. Writing longhand is not the same as typing—different neurologic circuits are involved—but that's a topic for another time. Five million words is roughly equivalent to 10,000 pages. Compare this to Henry David Thoreau's 6000 plus journal pages, written over a period of twenty years or so prior to his death at age 44. An astounding figure, and an astounding pace, and more or less what we've been getting from Stan.)

I mention Thoreau, not for the quantity of his writing, nor for the fact that Stan has read every single one of his words, nor even because he's one of Stan's heroes, but in the interest of being direct, as promised. What makes Thoreau special is the quality of his writing—the breadth of his gaze, the beauty of his language, his fearlessness and humanitarian vision and voice. These same qualities are present throughout Stan's work. You can find them in his fiction, in his essays, in his talks. Stan is a literary descendant of Thoreau, in a soulful line that includes Muir, Snyder, Eiseley, Berry, and Matthiessen, among others.

All of us stand on the shoulders of our predecessors. This is true of everyone, but particularly noticeable in scientists, artists, and creative leaders and thinkers. Stan has never been shy in his shout-outs. He's quick to give praise where it's due. He shouts loud and clear, with zest and authenticity. Authority too, especially when it comes to literary matters, not surprising given his background.

His essays on Delany, Le Guin, Holland, and, in particular, Wolfe, all sparkle with intelligence, respect, admiration, even reverence. His ability and willingness to express these feelings come from a wellspring of love and generosity he carries inside.

Love of writing. Love of people. Love of ideas. Love of life.

You hold these essays in your hand…how lucky you are. Read them, and you'll see what I mean.

He honors his predecessors. In the science fiction community, founded on the crazy principle that professional and fan are in some essential way interchangeable, we get the chance, not merely of standing on our predecessors' shoulders, praising them posthumously (or possibly in vivo, in person, but at a great remove), but more: the chance of rubbing shoulders with them directly, speaking face-to-face.

Early in his career, Stan met Bradbury and Asimov at conventions and planetary meetings. He had phone conversations with Clarke about Mars. In 2012, when he realized some of his favorite writers were getting on in years, he actively sought them out. Thus we have some of the wonderful essays mentioned above, and thus Stan got to do one of the things he does best, which is learn.

Stan knew he wanted to write from an early age. He knew what he had to do to accomplish this, and when he didn't know, or wasn't sure, he knew enough to ask for help. Most importantly, he knew how to listen.

At UCSD in the '70s he took a month long class with Ursula Le Guin while working toward his PhD.

"She kept five hours of office hours a week, and I dropped by fairly often. It seemed to me that any time she spent alone during those hours would be time wasted…

"At some time during the month I gave her a long mess of a novella, which I later sorted out as the third part of *Icehenge*... Write more, she told me. Finish more stories and see what happens...

"There were people in the workshop writing excellent stories out of their own lives, heartfelt things that seemed to me to put science fiction to some ultimate existential questions. Why write science fiction at all, when people could say things so clearly and directly? What was the point? I talked to Ursula about these questions, and afterward pulled out a backpacking story I had started and abandoned two years earlier. Three friends in the high Sierra, one of them recovering from a head injury. The more I understood that the brain damage repair was both a science fiction device and an image for how I felt, the more 'Ridge Running' became its own thing, separate from my trip while still relying on what I had done and seen up there.

" 'I like this one best of all your stories,' Ursula said when the story was workshopped. 'You should think about doing more like this one.'

"That was an important moment for me."

Important, to be sure. One of many in his education. And it wasn't lost, because he listened.

Another moment happened later, in a different way. In a 2014 essay on Joanna Russ, he has this to say: "I wanted to meet her and tell her how much her writing meant to me, and in her last decade she lived in the same town as my parents, so I probably could have. But I was a little scared of her, thinking she might judge me. Maybe she would have, but I should have tried anyway. Now I so much wish I had. I would have said to her, you changed me."

Again and again Stan reminds us that none of us lives in a vacuum, that we're social creatures, part of a community, or many communities, which guide us, and nurture us, and link us historically, backwards and forwards.

So it is with him and Marcel Proust, who died in 1922. Stan was born in 1952. As far as I know, the two of them never met.

But I do know that Proust's great novel has had a lasting effect on Stan's thinking about novels. I can also say with a fair amount of certainty that the large poster of Proust's famous 958 word-long sentence, fully diagrammed, that hangs in a place of honor in Stan's bathroom, as old, faded, and doomed for the dustbin as it would be in any other household, is never coming down.

I would guess the same fate, or non-fate, awaits the fax he received one startling day from England of a letter he'd tracked down from Virginia Woolf to Olaf Stapledon in 1937 in preparation for his brilliant talk,

"Time in the Novel"[1]. It was a red letter day for Stan the literary detective, and the proof is on his wall.

A final word about influences, though when it comes to Kenneth Rexroth, influence may be a misnomer. Better to say kindred spirit, or possibly beloved older brother. Stan edited and wrote the introduction to *In The Sierra: Mountain Writings by Kenneth Rexroth*, a magnificent collection of Rexroth's work, some essays but mainly poetry.

The Sierras are Stan's stomping grounds, his home away from home. Tracing old paths, blazing new ones, on and off trail, he's been carving himself into these great mountains ever since discovering them as a SoCal surfer in the 70's. From Orange County and the Beach Boys to San Diego and Van and Steve Howe, then onward to Davis, Astor Piazzolla, Beethoven and Clifford Brown, he never looked back.

His love affair with mountains took him to Northern California (with a pit stop in Switzerland: "Kistenpass" in this book is a must-read), and four decades worth of trekking and exploration of the Sierra massif. The white relief map of the range, which he keeps close at hand and colors in after every trip, tells the story. Very little white is left. In its place is a snaking, penned in, multi-colored, pictographic journal. Pretty to look at, fun to contemplate, useful for remembering. Though for Stan, unnecessary. The man forgets nothing. If asked, he could recount each and every trip, each and every turn, from memory. The only map he needs is the one in his head.

Here's how he describes Rexroth in his introduction:

"Exceptionally well-read, sure of judgment, and clear in expression, he made his journalism into a kind of ongoing education in the humanities. He consistently defended classicism and modernism, also Asian cultures, environmental causes, and the erotic and mystical literary traditions; he just as consistently attacked the military-industrial complex, imperialism, and the New York literary establishment. He was always slightly ahead of the zeitgeist…"

It's a terrific book, and Stan has given us a wonderful, incisive introduction to the man. Though reading it, you can't help think that he was looking in the mirror as he was writing it.

As a literary critic and theorist, Stan has formal training. Hearing him speak about writers and writing, which often involves some ranting and raving, and always new circuitry, is my idea of fun.

But to most of us he's known as a novelist. And to many, a scientist as well.

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1 http://www.kimstanleyrobinson.info/sites/default/files/Loncon_3_Kim_Stanley_Robinson__Time_in_the_Novel_128kbps.mp3

In fact, he's not a scientist, which he'd be the first to acknowledge. A believer in science, yes. A champion and spokesman, yes and yes, and a great one, for the same reasons that make him a great novelist.

He knows how to tell a story, front to back. He's intelligent, curious, and emotionally aware. He knows about rhythm and pace. He's insightful. "Exceptionally well-read, sure of judgment, and clear in expression," you could say. Once we're in a Stan Robinson story, we don't want to be anywhere else.

A story begins, first and foremost, with character. Loon, Thorn, Swan, Fitz, Mutt & Jeff, Widow Kang, Charlotte, Chan Qi, Galileo… Stan has given us a smorgasbord of unforgettable characters from nearly every walk of life. I started a list of adjectives to describe them—funny, courageous, hapless, humane, simmering, sober, swaggering, smart—but I had to stop. The list is simply too long; the pool too deep. As a reader you have only one choice: dive in, and find out for yourself.

Second and foremost to a story is plot, and here Stan soars. Whether you believe in the notion of seven basic plots, or nine, or nine thousand, he's given us more than we could hope for. Falling in love, coming of age, voyage and return, detection, comedy of coping, rebirth. You'll find all of these, and more.

Every book has to end, and Stan loves his endings. Here as elsewhere, he's characteristically assured. Whether it's the tied in a bow ending of *New York 2140*, the circular, recursive one of *The Years of Rice and Salt*, the slingshot ending of *Red Moon* (a term he coined to describe Gene Wolfe), or the rolling, 'if at first you don't succeed, try try again' of The Mars Trilogy, where dreams really do come true, and revolution happens, he delivers the goods.

Finally, he knows his facts, which is critical for all storytellers, but particularly SF writers. More importantly, he knows when and where and how to use them. Often these facts involve nature, history, art, or politics, and are voiced, or chanted, or sung, by an omniscient, off-stage narrator. In Qube, for example, in *2312*; in the citizen in *New York 2140*; in Third Wind in *Shaman*; and in Ta Shu in *Red Moon*, we see him experimenting with forms of exposition, playing around with them to our delight, and to his careful design. Facts don't have to be boring in fiction. They don't have to slow things down. On the contrary. They can be a rich and lively story of their own.

Character. Plot. Information.

In baseball terms, a triple threat. You don't get any better than that. (Speaking of baseball, you should check out Stan's remarkable "Arthur Sternbach Brings The Curveball To Mars." When you're done, have a look at "The Timpanist of the Berlin Philharmonic, April 1942," which

takes place during a performance of Beethoven's Ninth. In fiction, the two hardest stories to write are ones about sports and about music. When I say hard, I mean virtually impossible, because the two experiences are each so physical, visceral, intensely personal, and non-verbal. Somehow, Stan has managed to succeed at both.)

Now I'll add a fourth threat: his politics.

No one writes and speaks so consistently of what we, human beings, might achieve if we set our minds to it. Draw down carbon, mitigate climate change, restore our landscapes, champion women's rights, tax the rich, and in general, implement a post-capitalist political economy of fairness and at least some semblance of equality. He imagines how these might conceivably come to pass. He throws out ideas, some far-fetched, some more plausible, some…well, with the future, who of us knows anything with certainty?

He paints no rosy picture. Like everyone, he knows we're in big trouble. He's a realist, but he hasn't given up hope. He's an optimist at heart, informed, generous, constitutionally unable to throw in the towel, and lucky for us. In a world that seems bent on self-destruction, and a world of dystopic books that seem all too happy to join the club, he gives us an alternative.

No blasting off into space to colonize other worlds and blithely escape the mess we've made here. Those stories are undeniably fun to read, dramatic, and metaphorically satisfying. All these, and more. But it ain't scientific. Not close. As science it's bogus. Thinking we'll reach the stars is pure fantasy, like most operas are, whether they take place on stage or in space.

Our future is here, on Earth. There's so much to love and cherish in our own back yard, and at least as much that needs to change. Making things better won't be easy, but it's our only choice.

Thanks for reminding us, and telling great stories while you're at it, Stan.

Michael Blumlein
—Sept 24, 2019

The Part of Us That Loves

My mother, Gloria McElroy Robinson, grew up in Zion, Illinois.

When they came and told him of John's death he crumpled onto the packed earth of the marketplace and rocked back and forth in a fetal ball, howling. He was a small wiry man, dressed in a caftan the color of sand. His feet and hands and head were big for his size, long feet dirty in old sandals, hands immense and strange looking, head a mass of tangled unkempt black hair. Face thin under the wild hair, dominated by intent brown eyes which now stared off at nothing, or at his own death, so much like John's and now so much closer.

The autistic rocking ceased and in a staccato voice he asked how it had happened. Peter told him what they had heard and with a fierce roar he beat the ground, leaped to his feet and shouted furiously. Cheap, disgusting, meaningless, foul! His band drew back, afraid of him as they so often were. He darted through the growing crowd and ran out of the miserable fishing village to the hills, to deal alone with his fury and grief.

His little crew straggled after him, looking confused, appalled, sick. No telling what he might do next. He might disappear never to be seen again, he might return and lash them all with his fierce tongue or with an actual flail, who could say? Or at the first sight of him they might be re-immersed in the flood of his exuberant love. So they followed.

And the inhabitants of the village hurried out after them, carrying their sick and paralyzed, careless of their homes and possessions, fearful that if they waited even an instant they might lose him forever, and life return to the agony it had been before he came. No one could stand the thought of it. An hour after he had run away the entire population of the village was on foot and after him, straggling into the baked brown hills.

Naomi woke as the bus hissed to a halt. She put her pocket Bible into her daypack, grabbed her clarinet case and hopped out the door just as

it was closing. Some boys were laughing at her, and haughtily she tossed her short hair and took off across Shiloh Park, skirting the long pond on her way to the church.

She remembered what she had read on the bus and forgot the boys, feeling disturbed. The Bible was so strange. People outside the church acted like reading it made you an innocent, completely out of it, and yet here it was filled with blood and gore and sex and perversion—all the world's evil, wrestling the good with devilish vigor. Chopping John's head off like that! And all because he had told Herod to stop messing around with Herod's brother's wife. And that wife, and her disgusting daughter who did the dance! It made Naomi shiver. She couldn't help trying to imagine just what sort of dancing could inspire a man to such evil. Naked, no doubt. Like the strippers in Las Vegas or *Penthouse*, or like Jeanette Thompson in the showers after workout, arms overhead and spinning under the spray. Except in this case under the eye of a dirty old man. Who went along with a slut like that even when she wanted a saint's head chopped off. And to bring the head in on a platter with her still walking around the room naked, no doubt! Oh, it was perverted all right; it made her feel queasy just to imagine it. No wonder Jesus had gotten so upset and run off into the mountains. Naomi had visited Colorado Springs, she knew what a comfort the mountains could be, how they lifted you above it all and made you feel the world was holy. Jesus needed such a place; after all, he knew all along what was going to happen to him. At this time he had only a couple years left. Horrible to know like that. No wonder he led the disciples on such a rollercoaster of feeling. Every day must have seemed like a year, especially the long days, like this one beginning with the news of John's death. Filled with wonder and pain. Days all four of the Gospel writers remembered, years later when they were writing it all down.

Green park on a muggy summer morning. She came to the church complex and walked into the band room. All the band members not at work—mostly younger ones—were arriving for an early rehearsal. Putting together instruments, warming up, talking. Naomi sat next to Penny and put her clarinet together. A whole gang of boys barged in together, including Tom Osborn. Surreptitiously Naomi watched Tom go to his seat, four down from hers. She was first clarinet and he was the first and only oboe, but the band was arranged with the other first clarinets between them. Tom put his oboe together and talked to the boys in the trumpet section behind him. He looked down the row and saw Naomi, waved and said hi, went back to talking with his friends. His movements were abrupt and uncontrolled; he had grown about four inches in the last year, on the way

to becoming a tall, lanky redhead. He stumbled a lot. And his laugh was a kind of boisterous honk that burst out of him before he even knew he was amused. Only his long fingers showed any sort of coordination, and that only when he was playing. Of course it took a lot of coordination to play the oboe's double reed, but that was in the mouth and no one could see it. The other girls thought he was weird for choosing the oboe in the first place. But he was interesting.

Their conductor shuffled slowly into the room. Several people greeted him. "Morning, Dave." He looked up briefly, smiled, stepped carefully onto his podium, each foot placed securely before he moved the next.

The bandmaster was old. Conductor of the Zion Band for many decades now, he was in his eighties, and suffered from a disease of the nerves that made him shake. Probably Parkinson's although one couldn't say for sure, as he and his wife still followed the teaching of the town founder, Dr. Alexander Dowie, who had held that doctors were unnecessary and that the only true healing was accomplished by Christ, through the word of God. In any case Dave had trouble moving, and his hands and mouth shook. Sometimes Naomi was amazed that he could still conduct the band. But obviously the act itself was a restorative. Like this morning; first he talked to them softly about this evening's concert. They were playing in the park's band shell for the residents of several local nursing homes, to celebrate the hundredth birthdays of two of the old folks. Also for whoever else came to listen. Quietly Dave named the tunes they would play, listing them with a weak smile. He seemed hesitant, drained, incapable of lifting his arms. But then it was time to rehearse, and he stepped forward to his music stand, and it was as if (as she had heard Tom say) he had a socket in the bottom of one shoe and had just stepped onto a plug, connecting him to some powerful electric source. He conducted clearly and vigorously, with a strong four-four beat, head tilted up and to one side as he listened. If you made a mistake a wrinkle would form between his eyebrows; if you played a hard part with accuracy and expression he would look your way and smile—just a glance, but you knew he heard everything. He smiled at Tom's playing frequently; Tom and Andrew on the baritone were the real musicians in the current band, Naomi thought, and she could tell Dave agreed. How he enjoyed listening to them!

That's why we're here, she thought, here on a sunny summer morning: because Dave was a man who loved what he did. He would say, I've been lucky my play has been my work and not many can say that, and all his life he had been ready at any moment to sit down and make music, to speak through it, which speaking filled him with joy. And seeing that

people were drawn to it. It's like that with some bands, some choirs; the conductor has a presence, spreads a joy, and band or choir gets larger and larger, prospers even in times when fewer people know how to play or sing. Because of Dave it had been like that in Zion for almost fifty years.

Then rehearsal was over, and it was time to get to the other side of the complex for the weekly Bible class. Dave was teaching that as well this year, so there was no need for Naomi to hurry; he would be a while.

As she left the room Tom Osborn rushed up, banged into the closing door, said brightly, "Hey Naomi, are you on your way to class?" She nodded. "Good, I'll walk over there with you!"

"Sure," she said, pulse quickening.

So when he came out of the hills and down the broad sandy wash, winding between shrubs and humming a random tune, he came on them all at once. The whole mangy lot of them. For a moment anger drove its iron spike through him—never to be left alone! Then he saw the looks on their faces: fear, hope, sudden release at the sight of him, deep relief. They wore all the clothes they owned: a caftan, a shirt, a tunic, wrapped skirts, threadbare with a thousand washings, sewn up, dusty, torn. Under that, ribs, scars, open sores. Distended bellies of malnourished children, gaunt musculature of malnourished adults. This was his constituency—he would never have any other—people so poor that the slightest drought might kill them, every day spent thinking about the next meal—where it would come from, how they might ration it—going without so their children could eat, falling asleep at night feeling that pinch in the gut, that pain. With disease permanent, unexplainable, unavoidable. Like a curse. And he understood suddenly that he was their only chance to escape lives that were like the lives of their beasts, grinding in poverty and pain, sudden death touching down among them like soundless heat lightning on a black summer night. Their only chance. Except you have souls it is no more than this, he said to himself, looking at the desperation in their faces, the desperation that had brought, my God, the whole village after him.

So he sat them down, using his little band as messengers, spokesmen scurrying anxiously around saying He'll be here in just a moment, sit down and he'll come. And all the while thinking of John's fierce pure devotion, he walked among them. And they watched him and waited for his approach. An ordinary little man with a tangle of hair and a dancer's step—how he drew the eye! They felt the compulsion to watch him, they felt the awful contradiction of a man who seemed relaxed, calm, soft-spoken, and yet at the same time stuffed with energy, a violent internal spin revealed in every gesture he made. Squatting elbows

on knees, talking to each of them in turn with that direct gaze pinning them, brown eyes under the stray lock of hair steady and searching right to the bottom of their selves, understanding all he saw and loving them nevertheless. While he talked his strange oversized hands were always moving, fingers pointing, shaping ideas, touching his listeners—making a cap for a boy's head, wrapping around a twig-like leg, rimming an open sore or laid flat on a patch of leprosy that no one else would dare touch, and as he did so there was an almost audible tension in the air, a tension such that his low musical voice could be clearly heard all the way across the wash, humorous tones bouncing like his visible image in the heat-waves rising from their alluvial amphitheater, sounding as if spoken right into the ear, clear in the palpable silence of their ensemble breathing. And here a paralyzed arm would quiver and clench at him, a skeletal woman would swell like a wineskin and rise and ask for water, and everyone would sigh under the burning sun and sleeping children smile with contentment. And always the voice floating through the baking air, saying you are more than animals, you are human beings, God's own children, God's mirror and message, with spirits that transcend the flesh and all the flesh's meager explanations. Spirits that never die. And we prove this by the way we behave toward each other, by our compassion and love given not just to family, which after all even animals do, but to all creation and especially to other human beings, your brothers and sisters all over the world. And they could feel in their marrow it was true, because of this little man spinning among them with his big hands and his quick laugh (head thrown back to the sun, teeth white in his black beard) and his quick brown eyes and his quick musical voice—because of his *presence*.

Naomi jerked and sat up. Bible class again. A bit dull. Even with Tom sitting next to her. There were only eight students there, all of them in the summer before their junior year of high school, most known to each other since childhood, and many of them restive at this class, which was mostly taken because parents commanded it. Jeanette glancing into her makeup mirror, the boys on the other side of Tom fidgeting, Martha nearly asleep, and Dave sometimes seeming not much more awake himself. Teaching this class did not transform him as conducting did, and mostly he just asked them in turn to read aloud from the Gospels, reading different versions of the same events from the four books, then reading a companion study guide, or a modern language version, to clarify any obscurities. And of the nearly infinite host of questions plaguing Naomi, all the whys and wherefores and what exactly does this *mean*, he had only his slight inward smile and a manner like that she heard psychotherapists used. Well, what do you think it means? he would answer her. Why do

you ask? What troubles you about that? And so on, until he would ask someone else to read on, and listen with a very faint, abstracted look of pleasure, enjoying it as if it were some quiet form of his beloved music. Leaving Naomi to her own devices, all the questions still snapping away inside her. Her puzzle to solve, without the help of anything on earth.

By the time he had finished wandering through the crowd the sun was low in the sky, it was cooling down marginally and they could finally feel the sweat on their skin. His band gathered around him and Philip said You'd better send them home now, they've got nothing to eat and they've been here all day. He looked at his men with the exuberant spin still clear in his gaze and laughed. How will we feed all these people, Philip? Where will we get the bread? Feeling the urge that so often struck him, to tease or even taunt these brothers of his, the men he knew best in all the world, who despite all still followed him around gnawing one worry or another, as frail and lovable as simpletons, which some of them in fact were. Philip, who was constantly trying to keep them from going broke, spluttered about how much it would cost to buy that much bread—a couple hundred pennies' worth at least—only he could make such a quick estimate of something like that—meanwhile the women of the village were walking up from a spring with the water jugs full on their heads, still in balance over their graceful swaying. They were expecting a supper of water, it wouldn't be the first time or the last. He laughed again and, returning Thomas's truculent gaze, said You feed them. Feeling mischievousness like a fountain in him, a response to the women's beauty. Who could stem it? Serious Andrew went to their bags and said slowly, We've got five loaves of bread. Oh, and two fish. Dense big loaves of brown barley bread, each would feed several men. Two smoked lake trout, bony and short, staring up with a round-eyed expression just like Peter's. He laughed again. Fine, he said. Have them move into groups of about fifty.

And they went off to do it, Thomas rolling his eyes, the rest looking puzzled and frightened almost to tears. As they arranged things he emptied out their baskets and moved onto a pebbly rise at the upper end of the wash, where everyone could see him. Certainly their eyes were all on him. He put the five loaves and the two fishes into one basket, and for a long time he stared into the setting sun, becoming still as the rock under him. He could feel the world breathing, the movement of the stars, the gaze of the people sitting in the sand around him. His long fingers twisted the first loaf of barley and tore off a chunk. He dropped pieces of bread into an empty basket, then used a fingernail to tear flesh from the fish, careful not to include bones. Thank you, lake trout. By the time his men had regathered around him he had filled two baskets. He was still just

beginning on the first loaf. Peter did his fish imitation. He laughed as they scurried off with the baskets.

Watching him frightened them. His hands moved like a tailor's, quick and precise, tearing away mouthfuls of bread from loaves that never seemed to get smaller, so that it seemed barley bread and chunks of smoked fish were pouring out of his palms. It was enough to make them run away with their full baskets, running to the hungry eyes that watched it all intently, people silent as boulders scattered on the wash focusing their concentration on the little man at their center. They ate without taking their eyes from him. And it went on like until the red oblate sun touched the hills to the west, and the air was thick with apricot light and the smell of sweat and smoked fish. Every visit to him was more confounding; same thing happening, hands tearing quickly, his gaze direct and sardonic, challenging, a laugh playing under his moustache. So that it was actually a relief to stumble away from him with yet another full basket. This was the central fact of the experience, every time they stepped out into the luminous realm of the miraculous: it was frightening to see it! There was a lot of terror in awe.

When he was done producing food out of the five loaves and the two fishes he stood and stretched like a cat. He took up a handful of the bread, regarded it curiously, ate it piece by piece, chewing slowly. When he was done he said to the twelve Take your baskets out and collect the scraps they haven't eaten. They did it wearily, and came back humping full baskets, every one of them. Staring open-mouthed. He laughed. We can have leftovers tomorrow, he said, and looking out at his people he felt the surge of affection coming from them; he turned it back out on them, the mirror of their capacity for love.

Tom tapped Naomi on the knee, startling her. He leaned over so he could whisper in her ear. "Matter replicator," he said softly; she could hear that he was smiling as he spoke. "Alien visitor from a planet with a higher technology. It's obvious, don't you think?"

Blushing, and fearful that Dave had heard him, Naomi shook her head. And Dave cocked his. "Tom?"

"Oh, uh—nothing, Dave." Tom straightened in his seat, buried his nose studiously in his Bible.

Dave looked at him dubiously. "Jeanette, would you continue?"

Naomi groaned inside. Jeanette read in a smarmy, over-expressive voice, relentlessly marking each sentence by emphasizing words or phrases chosen at random. That to her was drama. And apparently Dave liked it, or at least had no objection. Tom shifted restlessly, rolling his eyes at Jeanette's melodramatics and surreptitiously flipping through his Bible, looking for who knew what. Jeanette was reading from John, while Tom

was looking through Mark. Naomi, at first pleased to sit next to Tom after their walk around the complex, now began to get annoyed. He definitely made it harder to concentrate.

"Then those men, when they had seen the *miracle* that Jesus did, said, This is of a *truth* that prophet that *should* come into the world. When Jesus *therefore* perceived that they would come and *take him by force*, to make him a *king*, he departed again *into a mountain* himself alone."

How disappointing, how terrible it must have been, to have had a day like that, filled with wonder and the tight sense of community that participation in one of his miracles always brought with it—and then suddenly to have them rise up and rush toward him shouting Be king! with their faces transfigured. Lead us! Be king! With his twelve men going right along with it as usual, jumping up and down in the front row.

To come out of that state of still spinning in which such things happened: shock, confusion, incomprehension. Then he understood; If he could make food from nothing, and if he became their king, then maybe it would happen every day. Free food, no work, security—return to infancy and sweet mother's breast. Or, to be more charitable, an end to the threat of starvation. Steep plummet of disappointment, empty despair, followed immediately as he was jostled by that old spike of anger. Shout wordlessly at them, strike at his doggy disciples and blast through them like Moses parting the sea, so he could run stumbling up the wash, to spend the night in the hills alone.

Leaving the twelve and the five thousand standing there confused, staring at baskets of bread and fish scraps. The twelve looked at each other and sighed. Done it again. They couldn't predict him; they didn't understand him, and they knew it.

John and Mark took charge and sent the villagers back, with the contents of the twelve baskets. After that they were left on the caked shore of the Sea of Galilee, with no shelter and no food, only a plan to go next to Capernaum, across the sea. And no sign of him. Doubtless gone for the night.

Irritably John suggested they precede him over the sea to have a roof for the night, and the others agreed; they convinced a fisherman who had witnessed the day to lend them a boat, and they got in and started rowing.

Night fell, the wind picked up and came right in over the bow. Low dark clouds, steep short waves falling over in white lines, in a roar of wind and water mixed, until they had to shift toward the stern so the bow would clear the waves, and they were tossed about, elbows bashing ribs and heads in the dark, the rowers crying for room and everyone get-

ting scared; it would be difficult if not impossible to turn back without swamping the boat.

Then Matthew cried out, and when they saw what caused his shout they were terrified: there was a figure in white walking on the sea, gliding smoothly in a little pocket of stillness—

"Ah ha HA!" Boisterous horselaugh, from Tom of course. Startled, Naomi drew back and stared at him. He had a hand clapped over his mouth, but was still laughing; obviously he had been helpless to stem the outburst. Those gangly awkward arms. Everyone was staring at him. Embarrassed for him, Naomi looked down at her lap. The red lines of Christ's speech jumped off the page of black print.

"Well, Tom?" Dave said with his wrong-note frown.

"I'm sorry," Tom said, "I really am. It's just that in Mark it says, wait, here—'he cometh unto them, walking upon the sea, and would have passed by them.' I mean"—he stopped, suppressed another laugh with difficulty—"it sort of sounds like he went out there to help them, and then just forgot about it on the way—spaced out and would have strolled right on by, if they hadn't yelled for him!"

Several members of the class tittered at this interpretation, and Tom grinned widely. Dave frowned, but didn't offer a counter-explanation. He looked around at the others. "What do you think?"

"It was pitch black and storming!" Naomi said, surprising herself. She looked at Tom. "He went out there to save them, but once out there it would have been really hard to see anything." Her conception of the night on the sea was altering as she spoke. "He just lost sight of them is all."

Dave was nodding. "Jeanette, would you please continue?" Even though she'd already read most of the chapter. "Yes, let's stay with the Book of John for the moment."

Jeanette recommenced her mangling of the text, but Tom, still tensed, on the edge of a new guffaw, scribbled something on his Pee-Chee folder and slid it over onto Naomi's leg. Curious despite herself, she read it: *Walking on water—Anti-Gravity Device! See what I mean?*

She took out her ballpoint and quickly penned under his message: *Don't forget Peter did it too, then fell in when scared. It took BELIEF.*

Tom scowled, grinned, wrote: *Unless he stepped outside the field.*

Then Dave cleared his throat, and they were both nose-deep in Bibles.

It was, to put it simply, a scramble. The ferocity of concentration necessary to stay on the surface of the water was challenged by the steep tumbling waves, and eventually he was reduced to every kind of acrobatic maneuver: hopping over broken whitecaps, skidding down the backsides and sinking ankle-deep as he bottomed out in the troughs, occasionally

going to hands and knees, or jumping from crest to crest and treading deep in the mush—sweeping wet hair out of eyes, pausing legs spread wide to look for the foundering boat… So that by the time he neared them he was sopping wet, glissading down the backsides of waves, broad-jumping up the frontsides, surfing on his feet to close the cross-distance, crawling in places, slipping around like a drunk on greased glass, up and down, up and down.

Then they saw him and shrieked in fear, so that he relocated them off to one side. A ghost, a ghost! He had to laugh. They never learned. Be of good cheer! he shouted, laughing crazily as he sideslipped down a swell, balancing perfectly. It's me! Be not afraid!

And Peter, bold as the child he was, said If it's you, Lord, bid me come to you on the water!

Come then, he said, riding up and down and concentrating on Peter's bulk, his low center of gravity, his childlike mind. It made him smile with affection to see Peter step right over the transom onto the water, which held him like thick mud. Peter took five or six steps before a wave jostled him; he went to hands and knees and looked at what was under him—black water right under his nose—and yelped. Help, Lord! Save me! And then it was a real struggle, he had to skid over the the waves and reach down under the surface and grab him by the arms and lift him up bodily, balanced on the swells all the while. He threw Peter over an oarlock and followed him with a neat step onto the mid-bench. They were both soaked, they couldn't have gotten any wetter. He cleared hair from his eyes and laughed. Oh man of little faith he said to Peter, why did you doubt? But then again, to take that first step out of the boat… He gave the bedraggled and shamefaced child a hug, then threw his mind against the wind. Spirit versus spirit. Father help me. The wind calmed, the whitecaps disappeared.

"Then they *willingly* received him into the ship: and *immediately* the ship was at the land whither they went."

Tom's eyes bugged out and with a jerk he scribbled on his Pee-Chee, poked it so that Naomi would look. *TELEPORTATION!!!!!*

Naomi pressed her lips together to keep from smiling, rolled her eyes, poked him hard in the ribs.

When class was over they put their things in their daypacks without looking at each other. Then as they walked out into the humid sunshine he rushed up to her side and almost tripped. "Hey, are you going to eat lunch now?"

Naomi nodded.

"Me too. You want to—I mean…"

"I've got a sack lunch, I'm going to eat in the park."

"Me too! Want to eat together?"

"Sure."

A laugh burst out of him. "Ha! And so they broke bread together. What a class!"

She snorted. "Just call you Doubting Thomas."

"Well, I can see his point. I mean, a little proof—I wouldn't mind some of that myself."

She shook her head. "You have to have more faith."

"Faith," he said, testing the word, weighing the sound of it. He shrugged. "Maybe I do."

They sat on the grassy rise at the north end of the park, and got out their lunches. Tom's was just three peanut butter and jelly sandwiches, and a Snickers bar; his family didn't have much money. He worked several nights a week at the Jack in the Box, which no doubt didn't help his complexion any. Too bad he wasn't on the swim team. Or working at Sears, like she did.

She traded a baloney and cheese sandwich for one of his, and they ate. As they ate Tom gestured at the town around them. "We live in a strange place, you know? One of a kind."

Naomi swallowed. "I know." Zion, Illinois. Founded by the Australian faith healer Dr. J. Alexander Dowie, who set up a tent outside the Chicago World's Fair at the turn of the century, and urged visitors to avoid the iniquity of the fair and live a pure life. Many people responded. His plan had been to set up Zions outside all the major cities of the world, but the town fronting Lake Michigan on marshy land north of Chicago was the only one they succeeded in building. Even that had been a close thing, at first. Now it stood there like any other Midwestern town—only different. The north-south streets were named after characters in the Bible, in alphabetical order starting at the lake and moving inland, with a peculiar emphasis on the letter E: Edina, Elam, Elizabeth Emmaus, Enoch, Eschel, Ezekiel, Ezra... They must have had plans for a big town. Bethel and Shiloh Boulevards crossed at the central church complex, and there were diagonal streets crossing there as well, and a circular street around it. The park to one side. A city dedicated to God, the way they were all supposed to be.

"It was a kind of utopia," Tom said thoughtfully, blinking as he looked across the park in the direction of Dr. Dowie's big house, now a museum. "One of the last of the religious utopias started in America in the 1800s. One of the last started and one of the last still going. At least within the confines of the Christian Catholic Church of Zion, Illinois."

"Don't make fun."

"I'm not! It was a real accomplishment! In fact they had to break the laws separating church and state to do it. No drinking, no smoking, no gambling or card-playing... I even read a book that said they passed a law against jazz in the Twenties. But when I asked Dave about that, he got mad and said there had never been any such thing."

"I'm sure Dave knows more about music in Zion than any book."

"Me too. In the band for over seventy years!" He laughed with delight at the thought, spitting out white bits of chewed bread. "Incredible. I think"—he stopped, swallowed, looked serious—"I think Dave's the real heart of Zion. Not old Dowie." He waved a skinny arm at the museum.

"I don't see why you're so down on Dr. Dowie. He was a famous man, he did a lot to spread the word of God."

"Famous, anyway. The reincarnation of Elijah, as he decided—he certainly should be famous! He's even in Joyce's *Ulysses*, did you know that? I was looking through that book trying to read it when I came across him. I couldn't believe it!"

"So why don't you like him?"

"Well, have you seen those pictures of his church in Chicago? The walls are covered with the crutches of people he healed. Covered with them."

"So? He was a faith healer."

Tom shook his head violently. "Come on, Naomi. You know that faith healing is just what it says—a matter of faith. It's like Peter walking on the water. During the actual ceremony everyone's excited and crippled people really want to be healed, they believe it's happening and they're all pumped up and other people are standing, and so they channel every bit of strength into it, and everyone's encouraging them so they stand and walk around a little, and everyone says they're healed. But the next day!" He blew out his cheeks. "Then it's like when Peter begins to doubt, and sinks like a stone. I'll bet you a whole bunch of those cripples woke up the next day and found they needed their crutches again, and where were they? Decorating the walls of Dr. Dowie's church! Trophies nailed up to show what a great healer he was! Pah!" He waved the big house away with both hands. "I don't like it."

"But Tom," Naomi said, troubled by this vision of the town founder. "Some people are healed by faith. I mean, Jesus did it all the time."

"Yes, I know. Healed the sick and everything else."

"But Tom! Don't you believe in Jesus?"

"Well...I don't know." He looked uncomfortable, troubled by the question, which Naomi could tell he had asked himself before.

"What do you believe in?" she asked, shocked.

"Well..." His left hand gathered up twigs, tossed them aside as if throwing coins in a toll booth hopper. "I guess what I think is..." He bogged down, looked at her tentatively. "I guess what I think now is, that when we talk about God, we're talking about a part of ourselves. God is inside us, right? We say that. And what I think is, there's a part of us that is better than our usual self—the animal selfishness and cruelty and all the rest. And we recognize that part in us, we know it's different, and we call it God. So that when we talk about Christ, what we mean is the part of us that loves, the part of us that helps to feed the poor and heal the sick and all like that, even if they're strangers. The part that says everyone on the planet is family."

Nodding, Naomi said, "But there's more to it than that. I mean Christ was a man who lived in Israel. He really did all those things."

Tom waggled a hand.

"You don't think so?"

"Well, he certainly did some things, sure. But which ones, exactly? You know how the commentaries Dave had us read said that the first three gospels were written about the same time, and then John wrote his a long time later. Now look at the differences in John's version! All the other three say that Christ walked over the water to the boat, and when he got in the winds died and they went on their way. But John! In John, Christ gets in the boat and they're instantaneously in the other town! I mean, am I supposed to believe that? It's teleportation! If it happened, why didn't the others mention it?"

"Maybe they forgot," Naomi said, wanting time to think.

"It sure isn't something I'd forget if it happened to me! It would've blown my mind! No, it's the kind of thing you write down forty years later, after a lifetime's remembering has heightened things a little. And then you read the rest of John and you see he was a real mystic, a space cadet in fact. I mean, have you read Revelation?"

"Yes I have."

Another uncontrollable horselaugh, apparently at the expression on her face. "It's crazy, you know it is! I mean the man was spaced! So how much am I supposed to believe? How much was embellished later?"

Naomi shook her head, bore down on the main point. "Dave says we should believe it all, and chalk up discrepancies to the problems people have in seeing and remembering complex and unusual events. It's true you know—one time Mr. Delany arranged for some people to jump into class and tussle with him and run out, and afterwards when people told what they had seen, it was all different! He said that's why the police have such trouble with eyewitnesses. Everyone sees something slightly different,

especially when something incongruous happens. Besides"—she poked the grass next to his restless hand—"all four of them reported a lot of the miracles, like feeding the five thousand or walking on water. They all reported it the same! How do you explain that?"

Tom shrugged, sighed. Naomi felt herself trembling, and she could see by Tom's hands that he was excited too, color high, thinking fast, really into it, and with a little quiver she thought, without articulating it to herself, finally someone as smart as me, finally someone to really talk to!

Tom said, "Maybe he was an alien, like I said. Member of an advanced race, come to teach us to live better. Impressing us with high tech."

Naomi shook her head decisively. "It's more than high tech. We're talking basic laws of physics here—time, gravity, matter coming from nothing—what kind of aliens are you talking about?"

"God-like aliens," he said, and laughed a little.

Naomi shook head. "Either those men were walking around for three years hallucinating frequently, or else there was a being there outside the laws of nature—able to bend them at will! That's why John was so spacey, Tom, I mean think about it—he spent three years of his life following a guy around who was constantly performing miracles, healing the sick, feeding people, raising the dead! Why, one time John went out to talk to him at night in the garden and he and his clothes and everything around him were a pure glowing white! Three years of that kind of thing is bound to make you a little mystical, you have to be fair to him. I mean he saw Jesus come back from the dead, talked to him after the crucifixion! And all those miracles—"

"Yes I know."

"Well? They were one of the main reasons people were so impressed by Jesus. He was a supernatural being. God, in fact. He said so all the time. Jesus Christ was God, the creator of the universe."

Tom frowned, shifted uncomfortably.

"Who else, if not God?"

The question stopped him; it seemed to fill the air, reverberating around the park. She could see that he was really thinking about it, and not just shunting it aside the way people did, to avoid the radical problem it presented. She liked that.

But he was troubled. Eventually he said, as if to push the whole thing away again, "Look, to be alien is to be alien. It might very well look supernatural to us, it might very well be supernatural, how can we say if our four dimensions are all there are? Time, space, gravity—there's no way to be sure these things can't be manipulated."

Naomi pinned him with a look. "Manipulated by God, sure! It's God you're talking about! You just use all that sci-fi stuff to skip the crux of

the thing, the real question of do you believe or don't you. Come on, get serious!"

He was looking upset. "Well," he said querulously, "he disappeared from age eighteen to age thirty—maybe he went to India like they say and learned a bunch of yogi tricks."

"Yogis can't do what he did."

"They can walk on fire, that's kind of like—"

"They can do that because when you step on the coals you crush down a little layer that's nowhere near as hot as their middles, and then they hurry fast as they can."

"Maybe it's the same with water, you know, hotfoot to wetfoot."

"Stop joking!"

"I'm not joking," he cried, distressed. "I'm serious, I never joke!" Hoping to slide out of it with yet another one.

"I believe it," Naomi said sharply. "But it still comes out sounding like jokes. Which I find very sad indeed."

His mouth twisted, and suddenly, awkwardly, he grabbed his daypack and lurched to his feet, then stalked away.

Speechlessly Naomi watched him leave. Oh shoot, she thought, I've hurt his feelings. She found she was trembling hard, and her lunch felt heavy and lumpy in her stomach.

She was furious at herself for hurting his feelings; but she was excited as well. To have a real conversation with someone, to really go all out and argue about important things without holding back as she always had to do with her teachers who would think her insolent, her parents who would think her rebellious, her friends who would think her conceited—it was exciting! Oh, if only she could make it up with him, and go on talking! Argue him back into belief, even. Or just be friends. Close friends. Close friends. Oh, she would have to make it up! She felt like she could. Like anything was possible.

She packed her things and walked downtown to the shops on Shoreline Drive, to do some desultory shopping for her father's birthday. Gang of mothers in Rooks's for coffee and gossip. Zion was still alive all right. Little nineteenth-century religious experiment… But not entirely, not any more. Zion was being inundated by greater Chicago, and signs of it were everywhere: crowds thick downtown, graffiti scrawled on the walls, more police, locked bicycles, evidence of vandalism, tales of theft, drug dealing, all the rest. A lot of cheap apartments had been thrown up in the last ten years, filled by the tide of people from the big city, many of them black, most of them poor, and Zion was changing. The little utopia, such as it was, retaken by the real world. Dikes broken. Islet in the flood. She walked on, looking in the windows. Could be

just an ordinary American town now, Anywhere U.S.A. With all the emptiness that implied.

Then it was time for workout. Miz Hollins, their high school coach, ran summer workouts three afternoons a week, and everyone serious about being on the team had to come. Besides, it was fun. To clip the clear blue water and glide through that first lap without any effort at all, in a smooth rhythmic freestyle; it was one of the best moments of the day, and certainly one of the coolest.

Naomi's specialty was long-distance freestyle, mostly the 1,000 meters and the 1,500, unless they visited a twenty-five yard pool in which case she did the 1,650. So after a warm-up of sprints and IM work, she and Martha and Sandy were given pull buoys and put in the wall lane to grind out 2,500 meters, timing themselves every 500. Miz Hollins, a short, compact woman who had won a bronze medal in the breaststroke two Olympics before, gave them their instructions quickly and then went over to work with her real love, the sprinters. Barb, Simone, Jeanette: a loud lane. Jeanette was fast all right, but had no endurance at all. Anything over two hundred meters and Naomi had her beat. Tortoise and the hare.

As she swam the five hundreds she fell into the thoughtless trance-like state that was one of the reasons she enjoyed swimming. Glide along watching the bottom thinking slow, lazy thoughts. Thinking nothing. The fifty-meter pool was perfect for that; she stroked insulated in her own water world for so long that the appearance of the wall was a perpetual surprise, she had to remember how to do flip turns. Then it was off again. Remembering the day. The talk with Tom. Crutches on a wall. Hands with a rapid, neat movement (like the catch at the beginning of the pull), tearing brown bread. And the loaf never got smaller. Moving from group to group, stuffed to buzzing stillness with energy, atoms of his hands barely held together by the skin. Flip turn. The eye had to follow him. She imagined the process: God the Father and the Holy Ghost, trying to stuff Christ's Spirit into a little human body, like fitting a water balloon into a small shoe. Push, heave, grunt, catch that spurt back out, finally the Ghost holds the child and the Father is jumping up and down to compress that last bit into his mouth, strain, heave, get all the pressures right and Pop! it's in there at last. And ever after he walks around fit to burst with it! A compression of everything: love, compassion, calm, indignation, anger, amusement, pride, energy. All human qualities intensified, concentrated in the red sentences among the black. Except the really bad ones. Evil not a natural part of us. If you read just the red sentences, Tom joked. Different book?

In the last 500 she was tired, arms like wood, and as her hands caught and pulled slowly down the midline she felt the water like butter or Jell-O about to set, something so thick and tangible that it was hard to believe it was clear. Such resistance—*of course* it might be possible to walk on it! Water was solid stuff; just increase the surface tension the slightest bit and crawl on up… Feeling the thickness of the water and the lightness of her body, she felt she could almost do it herself. Belief. Or some sort of device. Magnetic fields. The nuclear power station down by the lake.

Afterwards Miz Hollins said, "Good pacing, Naomi—that last one was your fastest."

That's why they call it the crawl, coach.

Then in the changing room the IMers were talking about the latest Michael the Fox movie, and Jeanette and her clique were talking about a hot party in Waukegan, big deal, when Martha said to her, "Hey Nome, I think Tom Osborn is about to make his move on you."

Jeanette heard her and laughed. "Tom Osborn! He's such a nerd."

"He's not a nerd," Naomi said sharply. "He's just smart."

They all laughed at this, at the weakness of the defense, and what it said about how Naomi felt. Jeanette began to comb out her hair.

"Anyone smart in this town gets called a nerd," Naomi said bitterly.

Jeanette just laughed again, and the others joined her.

Simone said, "In that case Jeanette in no danger of her boys being called nerds, hey Jeannie?"

The other girls laughed, but this time at Jeanette; her latest was Frank Martin, the high school team's quarterback, who was a cutie and could throw a football a mile, but was notoriously stupid. It was said he could only remember four plays. Jeanette gave Simone a poisonous look and said, "True no matter how you define it. At least I only have one boyfriend at a time." But Simone walked off to the showers with a laugh, impervious, saying over her shoulder, "The more fool you." She was a cheerleader the same as Jeanette, and had more natural authority, being black and a little bit scary. The rest of the girls followed her lead and abandoned support for Jeanette's taunting.

In the showers Naomi gave Simone a grateful look and Simone smiled, scrubbed soap into her wirebrush hair. No one could be prejudiced against Simone, she was too confident, too direct, too accomplished. We're prejudiced against black people, Naomi thought suddenly, because they are more beautiful than us. They have more presence. Black skin gleaming like some sort of fantastic wood… Naomi and Simone had almost the same figure, but inside black skin it looked a lot better—more muscular, fuller. Seeing Simone made Naomi feel better about herself.

After that (busy day), it was back to the band room for the dress rehearsal with the whole band, the adults coming from work in office suits and dresses, or construction site overalls, chattering and filling up the seats. A hundred members, Dave always told reporters, from twelve to eighty-six years old. Actually there were about seventy playing at any one time.

Naomi sat down and saw Tom walk in. He avoided looking in her direction and once in his seat he twisted to start up a conversation with the guys behind him, making them laugh. Naomi sighed, worried. This might turn out to be more difficult than she had thought.

Stragglers were still arriving, and the room was loud. Naomi put together her clarinet, thinking hard. She looked up and was surprised to see Dave, shuffling between music stands to her. He smiled briefly. "I want you to be sitting next to the oboe instead of the first flute tonight," he said, "so you and Tom can hear each other on the duet in 'American Eagle.' Here, just flip-flop the first clarinets."

So Naomi stood and awkwardly shifted between the row of cheap folding chairs and black metal stands, trading places with Bob Caspar. Penny and Doris switched the two inner seats, giggling as they bumped into each other. It occurred to Naomi that she had a duet with the first flute in "Holy, Holy, Holy" as well. She sat next to Tom. The room was quieting down, but Dave was discussing something with the percussion section, so they weren't going to start immediately. She turned to Tom and put a hand briefly on his thigh.

"I'm sorry about what I said at lunch," she said in a quick low voice. "It was stupid."

Tom looked surprised, pleased. You could read his face like a billboard.

She said, "I was…" and squinched up her mouth.

"That's okay," Tom said. "I was being stupid myself."

"I mean, I believe…"

He nodded. "Sometimes I just talk, you know? Whatever occurs to me—"

"I like that," Naomi interjected.

"I shouldn't have walked off, that was dumb."

Naomi shook her head.

Tom grinned, obviously pleased by the turn of events. He flipped open the music to "American Eagle." "Shall we go over our part? It looks like Dave'll be a while yet."

They played the passage pianissimo, instruments slanted in together. Well, Naomi was thinking. What do you know. And all because of Dave moving me. Could he have known? She missed a sharp, concentrated. Have

to play a bit louder than Tom in concert, to compensate for the oboe's penetrating timbre. Fun to play together. Music was...like swimming.

After rehearsal the whole band went to Rooks's to have dinner together. Naomi and Tom sat in a group of friends at one of the long tables, and joined in the chatter and horseplay. They said little to each other, but Naomi was constantly aware of his presence beside her. Occasionally their elbows or knees would bump; Tom was a gawky eater, and restless in his seat, shifting to find a more comfortable position or jerking back to splutter with sudden mirth, often at a joke that only he perceived. When they bumped he paid no attention to it, as if this were ordinary and not to be noted. Naomi talked to Martha and Doris and Penny about the swim team and Martha's upcoming trip to Door County and the Upper Peninsula, feeling a general glow. She saw Dave drifting between tables and talking to people. He didn't like to eat in public anymore, as he had trouble controlling his mouth. Besides it would have taken time away from the socializing. Naomi waved when he was looking their way, and ten minutes later he stopped behind them and talked for a bit. He smiled as he surveyed the crowded tables, and he seemed to glow with the contentment he always exhibited when the band was together. This was his life, right here, extending all through the town and back through the years—a four-dimensional creature, as Tom would say. The past alive in him like a lamp. All those bands, players, concerts.

The way he talked about tonight's concert was cute: "The old folks really love these things, the nurses say it's their best medicine." As if many of the people they would entertain tonight weren't actually younger than he was. But they had lost something he was still suffused with. He really did seem to glow, his old skin was spotted and sort of waxy and no doubt caught the light in a peculiar way, but she was sure she could see it. "A hundredth birthday, can you imagine! I'll bet they're proud tonight, those two. It's quite an accomplishment."

They talked of the two centenarians, both of whom had been born on exactly this day a hundred years before. All the papers had written up such a coincidence. "That means when they were your age it was still the 1800s," Dave said. "Horse and buggy to spaceships and moon landings, all in one life." He smiled at the thought. "We'll send them into their second century with a good concert."

They walked back across the park in a large straggling group. It was cooling off at last, and the late evening sun buttered the leaves on the tall trees. "Zion's only skyscrapers," Dave muttered as he shuffled beside Naomi, looking up at them with a pleased expression. Across the pond a crowd was gathering before the band shell. It looked like a lot of them

were in the middle of picnic dinners. The crickets were starting up in force, and frogs by the pond and mosquitoes around their ears added to the song of the Illinois summer evening.

When the front of the band reached the band room door there was a small commotion. "Hey!" someone said loudly. Then there was a rush inside and more cries. Dave tilted his head to the side curiously, and without discussing it he put a hand onto Naomi's offered forearm so he could walk faster.

By the time they entered the room the cries of alarm and outrage had mostly died away, and the members of the band were standing around in shock, looking fearfully at Dave. The room was a shambles, the floor covered with torn sheet music and tipped-over music stands, the drums punched through, the Sousaphones dented by kicks; and all the cubbyholes on the far wall were empty. Their instruments were gone.

Dave shuffled into the room, looking befuddled. He stopped to lay a trembling hand on the rim of the bass drum, his mouth turned down, his eyes searching the floor. Mr. Stevens the band manager approached him, face scarlet. "They've stolen all the smaller instruments," he said in a tight, angry voice. "And wrecked these."

Somebody was crying. Hands clenched at mouth. People stood stunned, staring at Dave sick with worry at how he might react.

"What will we do?" Mrs. Jackson said.

Dave stepped over to his podium. "Everyone sit down and start sorting out the sheet music," he said absently.

"All the music stores in Waukegan will be closed by now," Mr. Stevens said. Dave himself had owned a music store once—it would have come in handy now, but he had closed it years ago. "Besides, we don't have time. We'll have to postpone—"

"We won't postpone!" Dave said sharply. He was a gentle man these days, but oldtime members of the band said that when he was younger he had had quite a temper—you didn't want to make him angry with you. Now Naomi saw what they were talking about, just in the sound of his voice, the expression on his face. "It's those folks' one hundredth birthday today, you can't postpone that. We'll just have to make do. Sit down and get the music sorted out. Come on." A single imperious gesture.

So they sorted as he shuffled through the wreckage, inspecting the Sousaphones, poking his head in cubbyholes, pausing in corners, looking distant, pensive. People watched him anxiously. Everything suddenly seemed disorganized, pointless. When the sheet music was all picked up and sorted Mrs. Saunders, the pastor's wife, suggested they pray. Dave nodded impatiently and bowed his head, and they all did he same. "Dear Lord," he muttered, "hear us in an hour of need. Forgive the foolish vandals who

did this, and help us find a way. For Jesus' sake amen." He raised his head, opened his eyes slowly, looked around. "Okay, what have we got left?"

They added it up: three of the five Sousaphones were still playable. Jack had had his trumpet with him. A piccolo in its tiny case had been overlooked, at the back of a cubbyhole. And two clarinets had been left in one of the practice rooms.

At the end of this wan reckoning Naomi saw Tom slowly straighten from a crouch on the far side of the room. He looked around the room for her, and when their gazes met he smiled sardonically. She shrugged, uncomfortable with the joke he was making.

Dave was nodding in an absent-minded way. He fumbled in his pocket, got out his keys. "Alan, would you go in my office? The Christmas instruments are in there."

Tom caught Naomi's gaze again, rolled his eyes at the ceiling. But she noticed his hand was clenched hard over a music stand; and it seemed to her the air was becoming chill.

Dave said, "First let's change one of the Sousaphones into something more like a baritone, for Andrew." Keeping his best musicians equipped. "Here, everyone sit down in their proper places. We only have a little time. Jack, have you got two mouthpieces for your trumpet?"

"Four," Jack said.

"Good. Some of you check the practice rooms again, will you? Mouthpieces, parts, anything. And some of you should start moving the piano out to the band shell, we're going to need it. I'll get Gloria out of the audience to play."

They brought him the least damaged Sousaphone, and he directed them to take off the last part of the bell, and replace the mouthpiece with a trumpet mouthpiece. "It fits if you tighten these here. I learned this down at the Orange Parade when we lost the baritones. Try that, Andrew. No, you have to blow hard to get it up an octave. Really hard. There you go."

Alan and Terry came out of Dave's office carrying the Christmas instruments: a tambourine, maracas, a big heavy set of jingle bells, a winder that spun on a stick, polished coconut shells to make the sound of horses' hooves, a small glockenspiel, and some plastic slide whistles. Also some New Year's Eve instruments, in the form of a dozen kazoos and noisemakers.

Dave inspected these, handed back his keys. "Out in the trunk of my car is a case of instruments I use when I visit the elementary schools. Mostly toys, I'm afraid, but that's okay." It was amazing he was still allowed to drive, Naomi thought. He went fast, too. Frowning with concentration, he said, "Kathy, Linda, Jerry, get scissors and rubber bands out

of my desk drawer and cut pieces from the bass drumheads. You should be able to re-head a snare drum at least, and you can rubber-band other pieces around the end of valve tubes, they'll be like bass kazoos."

There were worried faces everywhere now, a kind of basic confusion, as people contemplated the bizarre instruments Dave was proposing; they were afraid of making fools of themselves. Naomi and Tom worked side by side, feeling an entirely different sort of fear, afraid to look at each other, afraid to look up at Dave. The air was cold...

Dave wandered, threading the bustle slowly. He sat at his podium and showed them how pieces of the drumheads could be wrapped over valve tubes from the Sousaphones, and when the extra mouthpieces were stuck in them, they could indeed be played like big kazoos. They laughed shakily as he demonstrated. "Dave, how do you know how to make these?"

"All kinds of things will make music. Here, try that."

And then the trombone players came in from the church in a rush, waving long thick plastic tubes they had found in a back room. No one had ever seen these tubes before, nor was it clear what they were for. Blowing in them made a deep hoot. Dave nodded. "Blow some into the drums, it'll make them louder." It did; they sounded like foghorns.

Dave stood again, wandered around as they figured out what sounded like what, and who would play what, and worked on the drums. Then he stopped suddenly and said "Alan, Terry, did you look in my bottom drawer?"

"They're still out at your car, Dave."

"Oh yes." He shuffled into his office, came back out with an armful of wooden recorders of all sizes, nodding to himself. "Naomi, you and Penny take the clarinets, and the rest of the clarinets and saxes take these. Tom, you take this one." He gave Tom the shortest recorder.

Naomi and Tom's eyes met again, very briefly. Tom was shaking; he took the recorder reluctantly, and then held it between two fingers at arm's length, as if it might burn him like dry ice. Where in the world... Naomi could feel herself quiver, it seemed to her the light in the room had changed and was coming from all directions at once, somehow. Those recorders...it was cold! Did only Tom and she notice? People went a section at a time into the uniform rooms to suit up. She couldn't swallow well, couldn't move the corners of her mouth. She had to bite down on her mouthpiece to feel it. Honks, thumps, the tinkling of the glockenspiel. "Jack," Dave said, "you'll have to mute your trumpet or we won't be able to hear anyone else." Then blinked, looked confused, smiled. "We used to say that to my brother Bob, years ago, as a joke." He and four of his brothers had formed a saxophone quintet, one each for bass, baritone, tenor, alto and soprano; Bob had played alto until killed in

a car accident, decades ago. "His sax is still around here somewhere..." He searched stiffly through the cupboards under the cubbyholes, helped by the whole sax section. They found it deep in the back of a cupboard. Helplessly Naomi looked to Tom, saw him looking for her, saw his wild eye and a scared grin fixed on his face. *Where?* Seriously frightened now, she thought *No more, please.* She and Tom sat down together and tried the duet from "American Eagle," shaking in the cold so that they could hardly play. "I've never played a recorder in my life," Tom babbled, staring at the small wooden thing in his hands, turning it around to inspect it. "Simple fingering, I'll say that." He put it to his mouth gingerly and ran up and down a scale.

"Let's try to tune," Dave said. "One at a time. We'll use the glockenspiel's C. Come on, sit down, we don't have much time. First the regular instruments."

They tuned themselves to the *bing* of the glockenspiel, with difficulty, alternating between fits of laughter and anxiety. Alan and Terry returned with the case of children's instruments. The drummers pounded happily at a repaired drum, improvised cymbals and a triangle. Finally Dave had them all play their tuning note. Weird blatting *Huhmmmmm...* He shook his head, frowned, smiled his light inward smile. "Well," he said, "it'll be different."

They trailed out to the band shell in the silence of collective fright, clutching their new instruments and staying close to each other. Not a peep. Dave led them, glowing in his white conductor's uniform with the flat-topped cap, stepping high as he did in the Labor Day parade every year. Surge of adrenaline temporarily shoring up those damaged old nerves. Up the back steps and into the band shell. A Midwestern band shell in the summer dusk, the park around them a furry crickety black, fireflies scoring the distant trees, the stars all smeary, the faces of the audience lit by the light of the shell, pale blobs uplifted and attentive. The old folks in the front row looked unaware that anything was wrong, all clustered around the two wheel-chaired centenarians whose laps were heaped with bouquets, all looking happy and expectant. Behind them the rest of the audience had pressed in closer; no doubt they had heard somehow, the word spreading quickly through them as they sat on the cooling grass waiting. Now their faces had the look you see on people listening to a young performer in a first recital, encouraging and anxious. Naomi looked up at the white half-dome overhead. They would need the shell's amplification tonight. Half near and white, half distant and black. Naomi shut her eyes. Calm spinning in a restless crowd, the touch of a hand. Dave ticked his baton on the music stand.

Inevitably the first march, "Atlantic Seaboard," was ragged and out of tune, their sound weaker and rougher than usual, and just plain strange. Naomi felt her cheeks burn and her heart pump and she thought We can't keep on like this! But then Dave raised his other hand and began conducting two-handed, as if drawing attention to himself. He had a stern expression on his face, and his eyes darted from player to player, commanding them to watch him. He gestured for more volume from each of the players who still had a real instrument, including Naomi; he looked her eye-to-eye for a moment and she felt a little jerk, and played on at double-forte even though her music said mezzo-forte. And over to the side Dave's daughter Gloria was pounding away with all ten fingers on the piano, she had backed up all kinds of lame church ensembles in her time and knew what to do to fill in gaps. Lot of experience between those two, hundreds of concerts played and little could shake them anymore. Naomi played louder still. Then it was over and the band sat back in their seats with a collective gulp. The applause from out in the dark was loud, warm, supportive. Dave gave them no time to think, but went immediately into "Onward Christian Soldiers," smiling his little inward smile, hand bobbing in the clear vigorous 1-2-3-4 motion. The people playing the slide whistles began to get a gauge on the little plungers. Dave gestured for the row of trombone players, troublemakers to a man, to blow louder into their bizarre assortment of plastic tubes and valve slides; they thumped in behind Andrew on his alto Sousaphone, and Naomi could see their eyes grinning as they heard themselves provide the bass line. Fear shifting into something akin to it, but different.

After that they did "Semper Fidelis" and Dave had Jack uncork his trumpet for the solo, and then Naomi and Penney led the piccolo and penny-whistles through the high addition, and lastly the trombone boys joined in and powered through the bass addition, and they all marched through the last chorus and the coda in fine spirits, and they were off at last. All of them focused on Dave, which was only normal with a band and its conductor, but now it was his pleasure they needed to see, that they relied on. The way he enjoyed it, the way it was his whole life! After all there were his trembling hands suddenly as steady as a magician's, and if he could do that why should these new strange instruments be any obstruction to them? Most only took singing or humming the tune anyway, and as for the rest, a kind of heightened ability to concentrate flowed from the look on Dave's face: watching him Naomi thought she could feel what a redemption music was from ordinary existence, how much singing was like praying. And then they were in "American Eagle," and playing the duet with Tom she noticed that he was not playing the written music at all, but a higher improvised part of his own, his tone penetrating with a nerve-

racked vibrato. He continued to improvise after the duet was over, and in "Holy, Holy, Holy" he kept doing it, exploring the upper limits of his new recorder. Dave smiled to hear it, and then suddenly in the last great chorus of the hymn Tom was off and floating above the rest of them, in a pure clear descant. It was the reverse of the band's normal sound—usually the group as a whole had a clear sound, and the oboe cut through that with its double-reeded buzz—but now with half of them playing kazoos or honking into plastic tubes, it was the band that had a furry, buzzing, bagpipey timbre, and Tom with his little recorder who had the clear tone, a pure sweet sound that he was discovering as he played above them. Dave had them do "Amazing Grace" out of order because it too had a high floating harmony for oboe, and he shushed them all and looked to Tom to play up a bit, and Tom took off in a flying clear peaceful melody, and Naomi glanced sideways at Tom's face and saw he was staring amazed at Dave, as round-eyed as if he had his fingers knuckle-deep in Christ's palms.

And then they played "The Yellow Rose of Texas" and "When Johnnie Comes Marching Home Again," and "The Stars and Stripes Forever," in which Sheila Matthews played the piccolo solo perfectly for the first time in her life, without a trace of the fright that usually incapacitated her; and they played "Washington Post," and "Columbia, the Gem of the Ocean," and "The New Colonial," and "The Battle Hymn of the Republic," and lastly "America the Beautiful," which Dave always declared should be the national anthem, and over the sound of the band Naomi could just hear some members of the audience singing along like ghosts; her cheeks flushed at the sound.

And then the concert was over and the band was standing and walking around hugging each other and hugging Dave, and shaking Tom's hand and Sheila's too, and the trombone section was doing their part from "Semper Fidelis" as an impromptu encore, laughing and swinging their tubes back and forth in unison. Then off the stage and out of the shell, to mingle with the crowd, which was mostly friends, family, acquaintances. Part of a community. Dave walked around overlooking the scene with the same small smile of contentment he always wore after a concert. The trombone section marched through the crowd in Preservation Hall style, playing "Hold That Tiger."

After a while Naomi and Tom returned to the stage and sat in their chairs, leaned back exhausted. Under her stiff uniform jacket Naomi could feel the sweat running over her ribs. "You see?" she said to him under the din. "A miracle." She poked him hard in the leg to show he was serious. Her hands were still shaking.

"True," he said, nodding easily. Then: "That was my kind of miracle, though—we made happen it ourselves, you see?"

"Dave made it happen."

"Sure," he said, nodding again. She had never seen him look so relaxed and happy, it was as if he would agree to anything she said. "Dave made us believe we could do it. Faith, like you say."

"Faith in God, too."

He assented easily. "Faith in God. But, you know—nothing really… supernatural."

"Oh come on! Instruments were showing up none of us had ever seen! What about those recorders?"

He frowned, stared at the instrument still held loosely in his right hand. "Well…they must have come from somewhere, surely."

"Have you ever seen them before tonight?" she demanded.

"No, can't say I have." He grinned broadly, stared cross-eyed at the recorder. "Maybe I better keep this!"

She had to laugh. And he threw back his head and honked like the trombone players. "Whatever!" he said. "Whatever happened, it's ours."

And later they walked down to the shore of the pond together, still in their band uniforms. In the close warm dark summer night, cricket song creaking underfoot. And in one pause, very awkwardly, Tom leaned down to give her a kiss, and she was quick enough to meet him halfway. Brief touch of the lips, the warmth of the other. After that they held hands, and walked the pond's edge away from the darkened bandstand.

Tom laughed softly. "That was so great. I mean, we really sounded good."

"After the first couple, anyway."

"Oh yeah. That first one—" They laughed. "Horrible!"

"I didn't think we were going to be able to get through."

"But later!" Tom disengaged his hand to wave it around, jerking with excitement. "I couldn't even believe it."

"It was a miracle," Naomi said, mostly to herself. She gave herself a shivery hug.

They stopped at the pond's end and looked back down the length of the park. Over black trees rose a sickle moon. For a second she felt a cold touch of premonition; she knew this too would end, time would pass, and she saw snatches in her mind's eye—of saying good-bye as they left for different colleges—of the trembling stilled at last, struggling against darkness on the afternoon of a Christmas concert until hearing a voice saying It's all right, Dave, the band's all right… These things would come. But at that moment, standing side by side in the close summer night, the memory of the music fresh in their bodies, still *felt*—she knew that it was all worth it, that music and community and love redeemed all the trembling and pain and grief there were. To lift off and soar like that! A miracle in Zion. Big

hands moving quickly, neatly, tearing away chunks of brown bread, filling a basket with a frayed upper rim and a hole in one side, the laughing eyes meeting yours in the baking sun, the loaf getting smaller but not getting smaller, still there, still spongy and brown under those deft hands that moved so deliberately despite their speed, no trick possible, nothing to it: but the hungry were fed, the sick were healed, the lame could walk and the blind see. Ah God, yes, please! If it happened once…

God's grace. Or a dream we once had, a shared dream, to help those who need it. To heal the sick. The best part of our selves. Naomi looked up at Tom's horsey face, took his hand; she didn't have to decide tonight. Hands breaking bread, moving quickly, neatly. Giving. A miracle in Zion. Go you and do likewise.

"And when they were come out of the ship, straightaway they knew *him*, and ran through that whole *region* round about, and began to carry about *in beds* those that were sick, where they heard he was.

"And whithersoever he entered, into villages, or cities, or country, they laid the sick in the streets, and besought him that they might touch if it were but the border of his garment: and as many as touched him were made whole."

"A Story," by Kim S. Robinson

Gene Wolfe was one of my teachers at Clarion in 1975. We stayed in touch until his death last year. By a nice coincidence, I was given the Nebula award for *2312* in the same year Gene was given SFWA's Grandmaster Award. At the ceremony, since the novel announcement came last, I was able to lead the crowd in a chant: "Gene! Wolfe! Gene! Wolfe! Gene! Wolfe!" This is another way of saying that.

Once there was a boy named Gene Wolfe who loved to read, who was sick fairly often, whose mother read to him and with him. Then the boy grew up and was drafted into the army and was sent to fight in a war.

It's a cliché in our culture to say that while Vietnam veterans suffered on TV and came back to America and dealt with their demons very publicly, the Korean war veterans returned and went into the gray ranks of 1950s commerce and started families and didn't say much about what had happened to them. Wolfe both fits and doesn't fit this image. He did return home to live an outwardly conventional life, but his fiction, which is a kind of speaking out, has often been very concerned with war and is particularly good at describing prolonged murky bitter little wars; they recur in many of his novels, including *The Book of the New Sun*, *The Book of the Long Sun*, and *The Book of the Short Sun*, where the depiction of war and the battlefield in the aftermath is particularly intense and horrible. So the matter has remained with him throughout his career.

I think it possible that it also had a lasting effect on some features of his style, including irony, understatement, reticence, sidelong information, and the urge both to conceal and to reveal at once. I say this because all these characteristics, frequently mentioned by readers of his fiction,

are evident in the letters he wrote to his mother during the war, which were published in the book *Letters Home*. In these it appears he wants to be able to tell his mom what is happening to him while at the same time wanting to protect her from any too vivid knowledge of the worst of what he is facing. He wants both to tell and not to tell.

The literature he had read as a boy with such pleasure included late nineteenth century writers like Rudyard Kipling and Arthur Conan Doyle, as well as the American pulp magazines of the 1930 and 1940s, which largely kept to the nineteenth-century traditions. He does not seem to have read the Modernists radically disenchanted by World War One; those writers are not the first ones an American boy in the 1940s would run into. But Wolfe in 1953 went to a war that resembled World War One more than any war since. So it seems that by a sequence of coincidences Wolfe was strangely set up to recapitulate the shock and disenchantment that the young British men felt as they were sent to fight in the trenches. Because of that, it is always interesting to think of Wolfe's work in relation to writers like Robert Graves, David Jones, J. R. R. Tolkien, and Olaf Stapledon. They share much, including the fact that they all ended up being more than war writers.

Like these men, Wolfe entered his war in a sort of Kipling mode. He was already at 21 a good writer and a good mimic of styles, and he wrote to his mom in the tone traditional to dispatches from the front, ironic and jaunty. This worked fine for most of the war, for describing the boredom, the loopy logic of the military bureaucracy, and the mishaps of group life on the move. But then in June 1953 the Chinese army attacked the American line and Wolfe was suddenly in the thick of it. His unit was getting shelled; people around him were being wounded and sometimes dying. The stiff-upper-lip style of the letters grew insufficient to the reality, to say the least, and on June 11, after Wolfe witnessed American soldiers killing a pair of Chinese forward observers, he wrote two letters home that are among the most painful pages he ever wrote, their heavy, bitter irony his only defense against the event.

Different people process the traumas of war differently, and different cultures, too. It's sometimes said that one generation is tougher or softer than another about these things, but I think anyone brought up in anything like stable circumstances will be traumatized by war, when all one's ideas about what people can be are overthrown. After Korea, as after World War Two or maybe any war, many veterans, maybe most, came home and tried to forget about it. Wolfe himself did not write about the experience until around 1970, when "The HORARS of War" was published. See in that great story how the science fictional idea of the android allows the story to express the feel of the war experience, the

alienation and self-alienation, the radical doubt about what we are, the horror. Realism can't do this, because the feeling evoked by the event itself was more than a thought or a sentence, it was an image or a reality, a field of feeling that created a reality; and so a successful verbal representation of it has to be somehow the same. This is an art beyond what realism can manage, something the poetry of science fiction and the rest of the fantastic makes possible.

If you are ever in Washington D.C., try visiting the Korean War Memorial, just south of the Lincoln Memorial. It consists of a platoon of statues of American soldiers hiking uphill in a triangular formation. The statues are made of something like aluminum or pewter and are about life-size. They are looking around as if expecting to be attacked; their faces are images of fear, tension, anxiety, dread. To the west of them stretches a low polished granite wall on which tiny lines have been cut so as to appear to be faces, peering out of the wall from differing depths: Korean faces, American faces, Chinese faces, men and women, civilians, soldiers. Here again there is an image and a feeling. It looks like a Gene Wolfe novel turned into a tableau.

After the war other factors came to the fore. Some of these were as important as the war in their ultimate effect on Wolfe's writing, as, for instance, his job, his family, his decision to become a writer. The war was not all that mattered; having brought it up, this has to be said. Otherwise, I might make the mistake I see in the slew of fascinating biographies of Virginia Woolf that came out between 1970 and 2000, when, in identifying various impacts on Woolf's life and writing, each book seemed to be saying it had identified the key factor in her life and that the artist and her work were therefore now "explained." This is very far from the truth, both in Woolf's case and in Wolfe's.

But before moving on, we have to speak briefly of the coming home from war, because Hemingway above all turned that into an American cultural and literary moment. Wolfe lived his version of it. It must have been a strange period, and in his autobiographical essay in *The Contemporary Authors Autobiography Series, Volume 9*, he wrote, "My parents and I agreed that I should live at home and attend the University of Houston. The fact that I still showed a marked tendency to drop to the floor at a loud noise may have had something to do with it." Not much more was ever written by Wolfe about this period, but in 1968, two years before "HORARS," he published "The Changeling," a story that reads like a Nick Adams story looped back into itself like a pretzel or a Klein bottle, so that if you try to pull the scenes apart into a chronological order, you can't do it. It resembles one of the striking idea stories of Borges but is more emotionally intense; these are feelings rather than ideas that are

being pretzeled into a pattern like a Celtic knot. I remember Damon Knight saying about this, "It was when I understood that I couldn't make sense of it that I knew I had to buy it." Wolfe went on to invent more formal innovations to make an emotional point, but this one is surely one of his best.

Compared to the war and the immediate aftermath, the supposedly boring America of the 1950s must have seemed in some senses like a blessing. Wolfe still loved to read, and around 1956 he decided to try to write. He taught himself to write fiction by working at it mostly in solitude. In these years and after, he was also working for American companies first as an engineer, then as an editor for an engineering magazine. And thus we come to his contribution to another classic topic in American literature, the story of work.

This is a much harder genre than war fiction because it has to express somehow the repetition and boredom of work without becoming boring itself. Arthur Miller's *Death of a Salesman* deals with this problem by putting the story on stage and making work explicitly the subject of the story and the source of the tragedy. Literature in print, on the other hand, tends to look in the direction of work and then mumble and decide some other topic will do better instead.

Wolfe dealt with it as he did with his war fiction and his coming-home fiction, mixing his realism with the fantastic. The main result was his story "Forlesen." There are moving passages about work elsewhere in Wolfe, especially in the novel *There Are Doors*, but "Forlesen" is the heart of what he has to say here, compressing decades of his life and the common experience of millions, into one great story.

This was the first story of Wolfe's I ever read, and I can still remember closing my copy of *Orbit 14* thinking, "My God, science fiction is sure getting good these days! I can just pick up any old anthology and open it and find a great writer!"

I made a similar mistake a few years later when I drove down to see an Oakland A's game, and an opposing batter lined a screamer up the gap that was destined for the wall, but the left fielder zipped over and cut it off. "My God, they're getting fast these days!" I said. But it was Rickey Henderson.

Through these years when he was coming into his own as a writer, Wolfe wrote a lot of pastiches and clearly enjoyed it. He wrote stories in the styles of Edgar Allan Poe, Charles Dickens, Arthur Conan Doyle, Lewis Carroll, Rudyard Kipling, H. P. Lovecraft, P. G. Wodehouse, Marcel Proust, and R. A. Lafferty. He wrote pastiches of anthropological reports, fairy tales, aboriginal tales, Irish folk tales, Chinese folk tales, ghost stories, Arabian Nights tales, movie reviews, hunting articles, space operas, pulp adventures, hard-boiled detective stories, and Victorian

boys' magazine stories. In some of these pastiches he combined two or more styles; for instance, Arthur Conan Doyle is mixed with Lewis Carroll and Rex Stout in "The Rubber Bend." That's a combination that makes some kind of sense, but in "The Eyeflash Miracles," Ernest Hemingway is mixed with L. Frank Baum, in that the initial situation from Hemingway's "The Boxer" is transported to Oz. This is surprising enough that once I asked Wolfe why he had done it, and he replied promptly, "Because they were both Chicago writers, and so am I." An unusual conception for a story, but the result is a beauty and illustrative of how productive the practice was for Wolfe. These were not just exercises but profound inspirations—not parodies, but homages to writers and genres that he loved. When he felt that way, he gave back, he sang along, he celebrated the originals. The only two here that are like parodies, meant to mock or scorn their originals, are "An Article About Hunting" and "Beautyland," a hard-boiled detective story. The scorn for hunting articles speaks for itself, but it's interesting to consider why Wolfe would mock the hard-boiled detective story when he seems to embrace so many other pulp styles, including the nineteenth-century mystery and detective genres that preceded Mickey Spillane and the like. The answer may lie in *Free Live Free*, where Wolfe's portrayal of something like a hard-boiled detective's life, so desperate and pathetic, leads me to think he considers the genre too much of a lie or simply ugly. He once told me that since "Our Neighbor, by David Copperfield" had a sentimental idea, he chose a sentimental style; "Beautyland" has an ugly idea, and so perhaps he chose an ugly style for it.

But in the main, Wolfe is playing in these stories; he is creating and remaking and celebrating his own personal tradition. And the pastiches are always more than mere imitations. As Wolfe said about one of them, "'Has Anybody Seen Junie Moon?' is and is not a Lafferty story." *Is and is not*; this is a common Wolfe modality, here referring to the way all these stories are both imitations and commentaries on the originals, or else they are new creations that simply interact on the side with some other literature. Either way, they constitute Wolfe's most substantial literary criticism by a long shot; you could say he does his literary criticism almost exclusively by writing more stories.

Note how the writers and genres here, which could serve as a list of his chosen tradition (what some people would call his "influences"), are mostly congruent; they are the various folk traditions, nineteenth-century popular fiction, and the twentieth-century pulps that continued in the nineteenth-century popular tradition. Looking at the list you feel G. K. Chesterton should be there, and he is, in the chapters of *Nightside the Long Sun* where Silk performs as a detective. The only incongruent artist,

sticking out like a sore thumb, in fact, is Marcel Proust. And so, of course, he turns out to be another key that can explain everything.

Note there are no other high Modernist writers on the list, no pastiches or parodies of Faulkner or Fitzgerald or Joyce or Thomas Mann or Thomas Wolfe or Virginia Woolf—too bad, as far as I'm concerned, as I would love to read Wolfe's entries in the Bad Hemingway or Bad Faulkner contests. But Marcel Proust is definitely there, and he matters; he came later in Wolfe's reading life and served as the new torque applied to all that came before.

All this even though there is no single Wolfe pastiche of Proust to point to. We know that Wolfe read him: "Hour of Trust" begins with a suitably long-winded epigraph from Proust, and Wolfe's story, "Suzanne Delage," about a man who cannot remember a girl he went to high school with though he suspects he may have danced with her once, turns out to take its inspiration from a sentence in Proust's novel. I made this discovery by accident; reading Proust I came on a passage in which Albertine says to Marcel, "You're a friend of Robert Forestier and Suzanne Delage." and I was surprised to see the name. In the Proust, Marcel continues

> For a moment these names conveyed absolutely nothing to me. But suddenly I remembered... Suzanne Delage, she was the great-niece of Mme. Bandais, and I had once been due to go to a dancing lesson, and even to take a small part in a play in her parents' house. But the fear of getting a fit of giggles and a nose-bleed had at the last moment prevented me, so that I had never set eyes on her.

This then was the springboard for Wolfe's story; and near the start of it, Wolfe portrays his protagonist reading an unidentified book, "a book merely commonplace; one of those somewhat political, somewhat philosophical, somewhat historical books which can now be bought by the pound each month." Ah yes, Proust for sure.

So, there may be no explicit pastiche of Proust in Wolfe, but then again we do have "The Fifth Head of Cerberus." In both, a first-person narrator with a precise, sinuous style remembers events from his childhood. Well, that could describe a thousand books or more. But consider: Proust's novel begins, famously, "For a long time I used to go to bed early," while "The Fifth Head of Cerberus" begins, "When I was a boy my brother David and I had to go to bed early whether we were sleepy or not." Proust had an older brother, and yet Marcel in the novel is an only child; Wolfe was an only child, and yet in his story Number Five has an older brother.

Of course Number Five is not Wolfe, you say; but neither is Marcel Proust, and you need to consider the names again. In all the thousands of pages of Proust's novel, there is only a single instance in which we read that the narrator's name is Marcel. In "The Fifth Head of Cerberus," Number Five makes a display of avoiding telling us his name, as when his father asks, "What am I going to call you?" and he replies, "I told him my name." With this and other obvious avoidances, the withholding of the name is made an issue. But the not-telling is accompanied by the telling. There are clues in the text that the family's last name is either canine or lupine, and that it begins with a W (indeed, the *Monday and Tuesday* Number Five finds on the shelf when looking for his father's work would be a rare little chapbook by Virginia Woolf, there next to books by Kate Wilhelm and Vernor Vinge). And, as I once said in a report to a seminar, after describing why I thought Number Five's family name was Wolf, "what better first name for a clone than Gene?" The groans caused by this pun were appropriately loud, but I was talking about one of the great punmeisters of our time, whose story "Thag" ends with a character named Harry Naler who turns out to be a hairy nailer (of the serpent's tail to the floor); so when I next saw Wolfe, at the SFRA conference in 1978, I told him my joke, and he nodded gravely. "You are the first person I know of to have guessed Number Five's name," he said.

I'm proud of that little first. And Number Five's story was the first of Wolfe's longer masterpieces, and maybe the time when his personal tradition was fully assimilated and he spoke in a voice he would use often afterward, a characteristic Wolfe style, in which a syntax, sensibility, precision, and analytical power reminiscent of Proust are set on the clones, robots, six-armed monsters, and all the rest of the matter of his beloved pulp tradition. The result is not just Number Five's voice but in different ways the voices of Alden Dennis Weer in *Peace* and Severian in *The Book of the New Sun*—all first-person narrators obsessed with the remembrance of things past.

I don't mean by this that Wolfe became "the Proust of the pulps" or anything like that; I don't mean that the pulps were the clay and Proust was the kiln and Wolfe's life was the fire; even if it's true, I don't mean it. What I mean is that after Wolfe read Proust, he understood he was free, free to become himself in any way he wanted, to become, like Proust, one of the great Modernist writers, all of whom make their own tradition, style, subject matter, and reality. After you've read a novel that contains a 240-page garden party, why should you fear anything? You can't. Anything is possible. After "The Fifth Head of Cerberus," it's obvious Wolfe felt that way, and took off into his own ever-expanding world.

Before and after that moment, indeed throughout his career, Wolfe's fiction was rife with robots and androids, as well as doubled or split characters of various sorts: people whose brains are divided, people who are turning into other people, people who are not the people they think they are, people who are identical biologically but not mentally to someone else, people who remember exceptionally well, people who remember very poorly; people who mistake other people for robots, or robots for other people, and fall in love across the divide; and so on. The emphasis in these stories on variations of "almost human" or "human but different" is marked.

There is a concept called "the uncanny valley," introduced in 1970 by the roboticist Masahiro Mori, which postulates that as robots become more and more lifelike, they shift from being positively perceived by people to being repulsive to people, as seeming "human but not human" and therefore disturbing and wrong. If they were improved further and became even more lifelike, the concept's presumption seems to say, then robots would become acceptable again, as being just synthetic people.

This concept seems to be something Wolfe intuited well before Mori hypothesized it, and his stories very often take place on the uneasy slopes of the uncanny valley, which could also be simply the existential abyss between a consciousness and any possible other. This is an area where Wolfe thinks good stories lie; and time after time he proves it true.

Mentioning patterns reminds me that I want to say a little about matters of form, because Wolfe has introduced quite a few formal innovations that I think are original to him and are in any case effective and interesting. These innovations serve to help create the emotions in his stories, but they also exist, like his individual sentences often do, as pleasures in their own right—like shapes, as with a vase or a crossword puzzle or sentence diagram, but at the level of story structure or form.

Wolfe may have invented one of these forms after the accident that brought about "The Death of Doctor Island," described in his notes in this volume. Eventually, the three nouns in the title generated a suite of four stories that play off each other in meaningful ways, usually by reversals and resemblances. The characters, their situations, the resolutions of their fates, all shift from story to story in various kinds of reversals and alterations; as Gene said in one introduction of the group, he was "turning things inside out to achieve a different story." He said, "When you read it, you may enjoy tracing the inversions."

Another suite is made by the three novellas in *The Fifth Head of Cerberus*. These three interact in a different way than the Island/Doctor/Death suite. Because the middle novella is identified as a fiction written by a minor character in the first story, it seems as if we are reading an

attempt by a member of a dominant culture to imagine the lost world of a conquered and extirpated culture, an anthropological act that is often accused of being a cultural appropriation. The third story suggests however that instead of cultural appropriation, we are seeing a case of physical appropriation in the other direction, of the anthropologist by a colonized subject who then wrote down a real memoir of his species. But exactly when the second story was written in the time of the frame tales is withheld from us (I think), so a hall of mirrors effect is created that reinforces the feeling that certain questions about identity (like who are we?) are never answered in this story or in life.

Another kind of patterned group is the four stories "The Dark of the June," "The Death of Hyle," "From the Notebook of Dr. Stein," and "Thag," which rest against each other like the four cards on the ground floor of a house of cards, each one set in a different reality and using a different mode or genre. The first is a touching science fiction story about a father watching a child grow up and leave; the last takes place in a book and ends with the pun about that father's name, Harry Naler.

Moving on from the story suite, we come to my favorite formal innovation of Wolfe's, which I call "the slingshot ending." By this I mean a story in which the events begin to speed up as the narrative nears its end, and the story ends precisely at the moment of maximum acceleration into some new state, with the reader left to ponder open-mouthed what has been portended. "Silhouette" is the first great example of this device. Wolfe seems to have liked it too, as he used it again later in other stories, and in some of his finest novels. I suggested to him once that his editor David Hartwell had requested a fifth volume to follow *The Book of the New Sun* because he simply could not stand for such a monument of a work to have a slingshot ending, which it does. Wolfe laughed and agreed, and then said something like "But I got him in the end, because *The Urth of the New Sun* has an even bigger slingshot ending!" And the ending of *The Book of the Long Sun* speeds off toward *The Book of the Short Sun* in a similar fashion. It's a great formal device or technique, and, I believe, Wolfe's invention.

The acceleration of the slingshot ending is a matter of pacing, which involves not only changes in sentence structure that hurry the reader along but also a shift in how much action each sentence conveys. Wolfe shifts his pacing everywhere in his stories very freely, creating wonderful, rhythmic effects in the flow of the telling, the slingshot effect among others. He can be stately or pell-mell, classical or jazzy. It's one of many ways I am often surprised by him in my reading. Just as there is no knowing what the content of the next sentence is going to be, there is also no telling if it will cover a second or a year or stand outside time entirely. What

joy, after the too many volumes written entirely at the same pace, either plodding or frenetic but in any case ever so predictable and painful to one's urge to flow or bop. In this, one falls on Wolfe's pages as on music after a metronome.

One more structural or formal feature common in Wolfe is not his invention, but is often used by him. And in this one area of Wolfe, the reader is not likely to be surprised: if one character turns to another and says something like, "I want to ask your permission now to ask you fourteen questions in reverse order of importance, and when you reply you're only allowed to lie twice," then the other character, implausible though it may seem, is going to say yes and off they are going to fly together, into a delightful conversation which will mimic well the weird logic of human dialogue, while also revealing much about both the characters and their situation. These question and answer sequences in Wolfe come in the form of catechisms, interrogations, examinations, Socratic dialogues, classroom lessons, badgering sessions, and many other forms. I am reminded by this tendency for set piece dialogue of another writer with Irish Catholic ancestry, James Joyce, whose Ithaca chapter of *Ulysses* is a 70-page question-and-answer exchange that I think is his best and funniest writing and said to be his own favorite episode of his book.

Thinking of Wolfe and Joyce reminds me of Flann O'Brien, and I must digress briefly (and digressions are another formal device which Wolfe uses often) to mention that Wolfe's *Peace* is one of the elect group in that subgenre of novels that are about the afterlife of characters who may not know they are dead. That's a pretty tight set of specs to define an entire subgenre, but the five novels I know in it are all very fine. The first is by Flann O'Brien, titled *The Third Policeman*, which is why I thought of this; and the other three are Damon Knight's *Humpty Dumpty*, Neal Barrett, Jr.'s *The Hereafter Gang*, and Elizabeth Marshall Thomas's *Reindeer Moon*.

Knight loved *Peace*, and I believe that *Humpty Dumpty* is in part Knight's tribute to Wolfe. Knight may have grown Wolfe from a bean, as the dedication to *The Fifth Head of Cerberus* relates, but then he learned a tremendous amount from him, as he always said.

Dreams are very important to Wolfe's fiction. Three of his stories at least are dreams of his that he wrote down: "To the Dark Tower Came," "Kevin Malone," and "The Legend of Xi Cygnus." All are fine, and "To the Dark Tower Came" is one of my favorites. And a great deal more of his fiction reads as if one is having a powerful and startling dream, meaningful in a way that eludes easy explanation afterward. The ending of "Seven American Nights," and of "Houston, 1943," and of "The Hero as Werwolf"—the entirety of "The Eyeflash Miracles"—these are magnificently dream-filled and dreamlike fictions. For many years, Wolfe got

up to write in the early morning before going to work for the day, typing away before sunrise; I don't think it impossible that he was still partly in the dream state while writing in those years, still tapped into the depths. In any case he has trusted that state or modality more than most writers, and the surreal majesty of a great deal of his fiction strikes me as certain dreams do, as a whole experience, very real while happening and afterward stuffed with a significance I can't quite articulate.

Not many people can do this in their fiction. No phrase causes people to stop listening faster than "Let me tell you the dream I had." But Wolfe effects some kind of transformation in this material, which when we dream and wake up feels arbitrary or is simply forgotten. And in fact the forgetting of dreams is not always a bad thing. Wolfe once told me he was taking St. John's wort to try to stop nightmares, and in my innocence I wondered why he would care, since dreams aren't real and when you wake you see that; but then I had a nightmare so powerful that I will never forget it, which seemed an attack or a betrayal of my self by some other part of me. If that happened very often, I would want to stop them too. Clearly it is not necessarily an easy or happy thing to be a vivid dreamer—to have a powerful genius inside one, as they would have said in earlier times. The shamans of the tribe always knew this, and a certain amount of suffering and mental struggle was just part of their whole experience. But here too Wolfe has taken the circumstances given him and put them to use in the service of art. Even his dreaming mind has been entrained to the task.

A genius in Wolfe: and if there are any fellow postmodern materialists reading this and groaning at the idea of there being anything unusual inside an artist or anyone else, anything beyond the workings of the brain, I will agree immediately, but point out that the latest news from brain science makes it clearer and clearer that saying "only the brain" is not much of a delimiting statement. The brain is not a clockwork, nor a steam engine, nor a binary or digital computer, nor any of the machines we conceptualize it to be with our simple metaphors based on our own feeble handiwork, as if the brain could only be as complex as something we ourselves could make. Very much not the case. The brain is a kind of pocket universe. The mind is huge, and consciousness a small part of it. The unconscious may well be inhabited by "subroutines," as the computer people would have it, processes that may actually be more like characters. Maybe they are like Jungian archetypes—a shadow seems likely, perhaps an *anima* or *animus*—but who knows. Very probably the brain consists of organizations even stranger and more various than that. It may be a kind of library of stories all telling themselves at once. And by way of stories written down, one unconscious mind communicates with other unconscious minds.

So: inside Wolfe is one hell of a writer, a genius. Or a crowd of them. Thinking of it this way makes it easier for me to conceptualize the relationship between Gene Wolfe the man I've met, and the stories you now hold in your hand, and also all the books on his part of the bookshelf. It's not so much that Gene is reticent about his work, although he is, but that when he does speak about his stories, as he sometimes does, he does not seem to have the same interests in them that their narrators have. He is like the curator of the work of a close relative. This makes sense because it somewhat resembles the actual situation; Gene like the rest of us has seen this prodigious flow of stories pour out of him. He has had to do the work of shaping what emerges into sentences and scenes, and that's hard work, but he also enjoys it, it seems, and part of his pleasure must be that of any other reader reading these stories for the first time.

I have been coming at Wolfe's stories from a variety of angles here, like the magpies in my back yard banging on the black walnuts on the ground to break them open. The magpies are not getting very far, but it's March, and they are persistent. With these stories, no matter what angle you take on them, no matter how hard you whack them, they stay whole and unexplained. I suppose that suggests we have come to the moment to try to speak about what these stories mean: but no. I decline. I'm not saying it's impossible, but it would be hard. To do justice to that project would require some kind of ongoing Talmudic wiki that considered each story in turn, by itself and in relation to others. I have no doubt the Wolfeish community has already begun this discussion and will continue with it for ages to come. It is also true that sometimes the meaning of any given story is perfectly straightforward; in the later dialogues particularly, characters sometimes try to say things about life that are as plain and wise and interesting as you could want.

But more often it isn't that simple. Wolfe's meanings are complex. That's part of his point, I take it: life is complex. There are values in life, these stories say, there is good and bad, and all kinds of other values, but they are not often simple to tease out or apply. Indeed it's precisely where these matters are not simple that Wolfe is interested and finds his stories.

So most of these stories mean whatever the text of the story is, word for word. This is unusual, part of Wolfe's distinction or difference, because a lot of fiction is written as a sort of allegory. Writers have themes, they have morals, and the events of their stories are there to be mapped onto some other kind of story, shorter and clearer, something like a moral, but in any case a message, contained in the events of the surface story. A lot of literary criticism, especially thematic criticism, consists in teasing out and identifying these other meanings, thus treating the stories themselves like codes that have not yet been decoded. A lot of writers then conform

to this understanding and in some sense write allegorically; and science fiction as a genre uses allegory almost as a matter of definition, as the various science fiction tropes can famously be read as metaphors for some real-world current situation. Joyce's use of *The Odyssey* as a template for his day in Dublin in *Ulysses* is a famous example of one kind of doubled or allegorical meaning, and there are other ways of doing it: symbol, theme, metaphor. It makes good work for critics doing this kind of explication, and because of that, this kind of writer tends to be taken up quickest by critics, as there is something to work on, and the job is naturally easier. Writer and critic do their coding and decoding, and they both can present this process to readers, colleagues, and students, as being somehow the real work of literature and criticism.

This doesn't seem to be Wolfe's method. His stories usually are not allegories but events in themselves, something like dreams or vases. If you attempt to summarize them or to state their meaning, it gets too reductive and thus begins to go wrong. It seems to me the stories are saying that meanings are hard to map from one situation to the next. Ignoring that point and making any kind of automatic assumption or reduction puts a critic in the zone of Wolfe's robots and androids, who are always making mechanical responses where a human one is required. And thus his stories have their famous elusiveness, their subtlety, their hermetic, esoteric, gnomic mysteriousness.

This is not to say his stories are abstract art or impossible to understand. They generate a string of feelings, and this is what fiction really should do. The sequence, the mix, and the quality of the feelings created in the reader *are* the story's meaning. The writer as artist hopes to create a mix or sequence of feelings in the reader, feelings interesting, powerful, new in their mixture, moving.

New mixtures of feeling will happen a lot as you read this book. There are strange combinations, and in that sense they will be new feelings, hard to understand. After reading so much coded and metronomic fiction, it's a bit like swimming laps in a pool all the time and then going and swimming in the ocean. It's big and deep, opaque and whole; but you can still swim. Once you get used to the wildness of it, the new experience can be exhilarating. When I look at the table of contents of this book and recall each story in turn and the feelings they have evoked in me not just while reading but ever after, and then consider that they are all here together in one place, behind one spine, I feel a sense of awe. What I have said about them conveys almost nothing of the feel of them. All I've said could be true, and yet the stories could have ended up being entirely different; they are not to be explained by Wolfe's life or by critical insights. Once you get into the flow of the longer ones, especially, you are in a work of art

beyond explication, whole and beautiful. There is a great clarity to each story, some strong central idea or image that will stick with you; after that, the meaning of it will be something to puzzle over, which maybe just means you will want to read it again. Because the feelings these stories evoke are not only complex and subtle but also basic and profound. Wolfe doesn't fool around—well, he does fool around, and all the time, because the sense of play, of art as a great game and one of the deepest joys of life, is never far away in these pages. But the feelings are deep, too. He writes about love and grief, loyalty and betrayal, perseverance and ingenuity, awe and the sublime. Indeed, by his sheer strangeness and unexpected familiarity he creates a sense of the sublime more often than almost any writer I know. The sublime is a mix of beauty and terror; Wolfe sees and conveys a lot of both.

In an end note here, Wolfe invites us to suggest favorite stories for a second volume of "bests" to accompany this one, and I will take advantage of my opportunity to suggest "Houston, 1943," "The Changeling," "The HORARS of War," "Silhouette," "Tracking Song," "Eyebem," "To the Dark Tower Came," "A Solar Labyrinth," "'A Story,' by John V. Marsch," "The Ziggurat," "Memorare," and there's more, but I should leave room for others to make suggestions too, adding only that this second volume would be as strong as the one you hold, and when I think about what that means, I am amazed. Because this is one of the best story collections ever published, a masterpiece of American literature. It is going to be read and enjoyed by generations of readers to come, not only by Wolfeish scholars and other academics who will try to plumb the bottomless depths, a prospect which may make Wolfe groan, but also by people who find his fiction and read it in the way people read Jane Austen or Charles Dickens or Rex Stout, because it is fun and gives solace in just the way literature should. That will go on for centuries to come. So I will end by saying I am proud to know him even a little, and speaking with full confidence for the science fiction community, which is like a small town scattered over the face of the earth and across time too, I'll say: we are proud of Gene Wolfe. We have published him, we read him with joy, we celebrate him; we will always have reason to be proud of that. Gene shows that literature can be everything, a game, a mystery, a religion, a dive into the deepest depths. Read on and see what I mean and rejoice. Life means something.

Notes for an Essay on Cecelia Holland

I met Cecelia a few years after this piece was published in *Foundation* in 1987, and we've been having fun meeting around northern California ever since. For the last ten years or so we've done an annual gig together at Terry Bisson's SF in SF series. The sentence in this essay to the effect that the sf community constituted her natural audience has turned out to be true.

1. Science fiction is an historical literature. In fact this historicity defines the genre. The simplest way to say this is, "Science fiction stories are set in the future." Unpack this statement and we get something like the following: "In every sf narrative, there is an explicit or implicit fictional *history* that connects the period depicted to our present moment." The reader assumes that, starting from our present, a sequence of events will lead us to the "present" described in the narrative.

Not all science fiction stories are set in the future. There are, for instance, the stories we call "alternative histories." But we can easily explain why the alternative history is part of sf, by revising the statement above to say, "In every sf narrative, there is an explicit or implicit fictional history that connects the period depicted to our present moment, or to some moment of our past." It is the same process, connecting to a different point in time. Because no sf story describes the actual future that will ensue in the real world, one could even say that all science fiction narratives are alternative histories—some branching away from our present, others branching away from some moment of our past.

Using this historical definition we can distinguish sf from fantasy: sf is historical, fantasy is ahistorical. Sometimes the worlds described in fantasies have histories, but they do not connect with our own. Fantasies are not alternative history, but alternative reality.

This definition can also explain the hybrid called "science fantasy." Typically such a narrative is set in the very far future; accepting this, we label the text sf. But we cannot truly imagine millions of years of history, so the connection is not a felt relationship, and the text seems like a fantasy narrative, about a time that never connects to ours. Calling the narrative "science fantasy" labels this clash of generic impressions.

To say that sf is historical fiction is not to say that it is the same thing as the genre called "historical fiction." The two genres are not the same, nor are they mirror images; the future is fundamentally different from the past.

But the two literary genres are more alike, in some respects, than either is like the literary mainstream. They share some methods and concerns, in that both must describe cultures that cannot be physically visited by the reader; thus both are concerned with alien cultures, and with estrangement. And both genres share a view of history which says that times not our own are yet vitally important to us, and worth writing about.

So I propose to discuss the historical novelist Cecelia Holland in this journal of sf criticism, because we are, in the end, her natural audience.

2. An "Essential Holland":

Until the Sun Falls. This long novel describes the Mongol invasion of Russia and Europe, and the political infighting between the heirs to Genghis Khan's throne. The general Psin commands many of the Khan's potential successors during military campaigns, but has no chance at the throne himself; this position gives him political problems and opportunities that Holland describes in detail. Many of Psin's conflicts end in physical combat, so it is a particularly direct politics, but nonetheless one very subtly wielded, by a psychologically acute politician. It is a full portrait of an alien mind in an alien culture. Add to this intricate detail the large-scale story of the Mongols at war (the "alien invasion," seen from inside), and the result is a novel much like the Eurasia it describes, vast and complex. Holland's first great novel, which remains one of her best.

The Earl. Fulk is the eponymous Earl, and as Henry II wrests his way to the English throne during the chaotic years of King Stephen's reign, Fulk must negotiate his way through a tricky maze of alliances with the other earls, to restore stability to England by giving Henry the crown—at the same time acting to contain Henry's intense and dangerous ambition. As with Psin in *Until the Sun Falls*, Fulk pursues a very canny personal diplomacy, based on an ethics of consistency and loyalty. A compact and dramatic novel, with tremendous insight into the machinery of power politics.

Great Maria. Another big book, this is the first of Holland's to feature a woman protagonist. Maria is married to a ruthless young baron in medieval Italy, and the novel tells the story of their rise to greater power. Sometimes they co-operate, but often they are in conflict, and Maria must exploit the limited power she wields. Much of this power—influence over her husband's advisors, for instance—has to be gained and exercised clandestinely, and in opposition to her husband. She becomes a skilled analyst of the political system, which she must understand well to be able to manipulate at all.

Floating Worlds. This book makes a matched pair with *Great Maria*; again a woman protagonist marries an ambitious political leader, this time the leader of a society living in the gas clouds of Uranus, around the year 3000 AD. The Uranians have evolved biologically in a few significant respects; however, the personal combat on which political leadership ultimately rests in this society is most reminiscent of the squabbling among the heirs to the Khan in *Until the Sun Falls.* Even in the distant future, power is contested for with great violence. The wars between Uranus, Mars, and Earth devastate whole cultures, and the protagonist must struggle with enormous difficulties in her fight to maintain a bit of order in a chaotic world. There is a passage in this novel in which a decade is described in approximately a hundred pages; it is one of sf's great extended bits of writing. And the novel as a whole is a neglected sf masterpiece.

Home Ground. This is Holland's only "mainstream" novel, set in California in the 1970s. One of the main points of interest here is to see the sensibility of the historical novelist turned on contemporary society, because in a way our time is historicized for us, subtly estranged. At the same time it is a very accurate portrait of the California counter-culture as it ages, retreats, and deals with the passing of the Sixties. As in *Floating Worlds*, we see there is consistency in Holland's dark vision: the book is about modern times, and at first the violence we always see in Holland is sublimated in civilized pursuits, such as tennis, watching football on TV, or driving cars too fast; but by the end the guns are out, and the struggle for power in the microcosm of a small northern Californian valley has become a matter of brute force once again.

The Belt of Gold. This novel describes an historical moment—8th century Byzantium—which Holland clearly means to make analogous to the early 1980s, when the book was published. Political leaders manipulate the populace with supposedly threatening opposition, and revivalist religious fanaticism; most people live in ignorance and poverty; and there is a "society of the spectacle," where giant athletic events serve to

distract the populace from their daily woes. The action of the novel tells the story of an outsider who sees the Byzantine situation with new eyes, understands the corruption of the political leaders, and does all he can to help overthrow them.

Pillar of the Sky. Holland's most recent novel is not just about how Stonehenge got built, but also about how the Stone Age turned into the Bronze Age—how a matriarchal culture of prehistory turned into the patriarchal culture of history—how "history" began—and how violence for political ends became institutionalized. These huge cultural changes are all lived through in the course of the plot: in the beginning we have grooming as among chimps or baboons, and in the end we have wife-beating, and many other ills of modern life. Moloquin's story—institutionalizing violent power to pursue a great, visionary Project—can stand for much that has happened since, as many of our greatest monuments rest like pyramids on a base of human oppression.

3. Holland is a political novelist. Her principal subject is political power—how people get it, how they wield it, and how those with less power deal with those who have more.

This principal subject leads to a secondary subject, which is the presence throughout history of organized violence. In all Holland's settings, from prehistoric society, through European history and our present, to a planetary society of the far future, organized violence is a dominant force.

For Holland we haven't moved far from the social organization of chimpanzees or baboons. In fact this is a useful lens through which to view her work; her books are dominated by "alpha males," men who attempt to control their societies. These men are dangerous, because they are willing to use violence in their ambition for power. They must be dealt with by all the other members of their social unit; so these characters are the driving force of Holland's plots, and, she implies, of history itself. Typically her novels, especially the early ones, are organized around the figure of a single alpha male, and the plots tell how the secondary powers underneath this character deal with him.

Thus *The Firedrake* tells the story of an independent knight's uneasy relationship with William the Conqueror. *Rakóssy* shows a baron in defeat, from the point of view of his underlings. *The Kings In Winter* and *The Earl* describe "beta males" dealing with the flux of power in societies containing very active alpha males. This is also true of *Until the Sun Falls*, which is combined with the story of an alpha male getting older and dealing with challenges from younger males ambitious to replace him. *Antichrist* tells of an alpha male with the sensibilities of a beta male. *The*

Death of Attila shows what happens when the alpha male dies and there is no replacement.

With *Great Maria*, Holland shifts her attention to what primatologists would label the "alpha female". The women protagonist in this novel, and those in *Floating Worlds* and *Home Ground*, are among the most powerful women in their social systems, and their conflicts with the alpha males they consort with are very personal. But again the subject is political power—in these novels, how the most powerful women wield it.

Continuing to think in the primatologist's terms, we can say that *The Belt of Gold* describes an alpha female who has managed to take over the alpha male's supreme power. The historical moment when a beta male's personal strategies become codified into a formal political policy is described in the Machiavellian Florence of *City of God*. A historical moment when the alpha male's strategies for dominating his social unit will no longer work satisfactorily is described in *Two Ravens*.

In short, almost all of her novels can be better understood when looked at through this particular metaphorical lens.

4. Holland's novels invert many of the conventions that dominated the historical novel before her time. All the genre's sentimentality, often originating in romance, is swept away in a harsh blast of realism. Her early novels in particular are very obviously designed to do this; the feudal past is seen not as a glorious parade of knights in shining armor, etc., but rather as a brutal existence, felt intensely by people who lived amongst much ugly violence and death. This is taken to almost comical extremes in *Rakóssy*, when all the principal characters are killed as the Turks overrun Hungary. A similar effect is achieved by the extremely dark and bloody ending of *The Death of Attila*. These books state forcefully that the violence of the past was real, and that most historical fiction has lied about what the past was really like.

Style is an important part of this revisionism. There is no heightened language for rhetorical effect, nor any attempt at anachronisms or "period speech." Holland's prose is often reminiscent of Hemingway in its deliberate plainness, although Hemingway's mannered syntax is missing. Holland's deliberate, accurate, unadorned prose is a sharp reversal of the conventionally inflated language of the historical romance.

5. There is a utopian drive in Holland's work, in that most of her texts attempt to solve the problem of how members of society can oppose institutional violence, and create a more peaceful and just society. These fictional solutions are crucial in Holland's work, especially after the first few novels, which are usually content to describe the problem.

To oppose the violence of ambitious leaders, the people with less power need to be very active and intelligent; they need to make alliances; they need to be willing to manipulate people in ways that fall short of violence; and they must even be willing to use violence, if necessary, to avoid more. Holland's form of *Realpolitik* is not morally simple business, and it seems clear she finds the matter problematic and troubling; this would explain the obsessive return to the issue.

Her early formulations tend to remain on the level of personal relations: first as portraits of ethical personal diplomacy, as practiced by men in positions of power just below the leader; then as portraits of the private behavior of the powerful women who consort with the leaders.

But most people cannot marry the leader and manipulate him in a ceaseless war of mental judo, and few have personal contact with him of any kind. These novels therefore do little to suggest strategies for general use. In the novels published since the "women's trio," we can watch Holland seeking for political strategies that anyone could use. The novels are in that sense thought experiments.

This perhaps partially explains the failure of *The Sea Beggars*, which is the weakest of Holland's novels: the strategy suggested is set in the context of the revolt of the Netherlands against tyrannical Spain. We are shown an historical moment when an armed citizen's revolt against tyranny could still succeed fairly easily; but the same option does not exist today, and to imply that this response from the past could be used as a model for our political resistance is a sort of nostalgia.

City of God is a thought experiment which shows that completely unscrupulous, Machiavellian *Realpolitik* is a dangerous strategy. It can very quickly make the "hero" as dangerous and violent as the tyrant.

In this context, *Home Ground* serves to show that the "escapes" from tyranny fashionable in the 1970s are no escape at all. They only lead to a microcosm of the dominant situation, which remains violent.

The Belt of Gold hopes to make us understand our political situation by analogy to an earlier historical moment, and it urges us to resist it. As a political novel *The Belt of Gold* is one of Holland's strongest; it gives us analysis, it suggests strategies for action, and it shows these strategies bearing fruit, in a powerful utopian wish.

6. The reception of Holland's work is typical of that given genre fiction. Those who are familiar with her work regard it very highly indeed, but certain signs—irregular paperback publication, the absence of her name in the mainstream critical discourse, and so on—indicate that she is not as widely read or known as her books would justify. Occasional dismissive reviews reveal the bias of the dominant culture against genre fiction; the

inaccurate and inept review of *The Belt of Gold* by Caroline Seebohm in *The New York Times* serves as a perfect example of this kind of response.

It is no coincidence that science fiction and historical fiction are both marginalized by the dominant culture in America; it is a culture that would prefer to think that the present, with its comfortable American hegemony, is all that ever existed or will exist. Thus in "serious" contemporary literature nothing except the problems of our time are fit for fictional treatment. This effectively keeps history and historical thinking out of sight, and comfortably fixes the present moment. The dominant culture of our time is a kind of ostrich.

Sadly, the reaction of the science fiction subculture to Holland's *Floating Worlds* was not much more open than the dominant culture's reaction to her historical novels. This is perhaps partly the result of the slight xenophobia common in subcultures. Holland is an outsider, and her work is not conventional; so even when it is praised, it is praised as the work of an outsider, and then forgotten.

This is unfortunate, because if Holland does lack familiarity with the conventions of current sf (a questionable notion in itself), this only frees her from the homogenizing effect that over-awareness of convention creates in so much American sf. It makes *Floating Worlds* even more interesting, as a thing distinct.

To a certain extent the neglect of *Floating Worlds* results from the fact that it is a "sport," in the palaeological sense—we cannot make it congruent with a whole body of other work by a writer. If *Floating Worlds* had been published under the name Ursula K. Le Guin, for example, it would have been lauded, showered with awards, written about; most importantly, it would still be in print, and widely read. For we are used to great sf from Le Guin. But because this book is a sport, the sf community has not yet given it the attention it deserves. This is part of the unreliable mechanics of canonization.

The truth is, by her choice of genres Holland has to an extent marginalized herself. Despite writing several major novels, she is not well known by the dominant culture, which does not consider historical fiction serious work; and she is not much read by the science fiction community, although the members of the latter know well that the dominant culture's idea of what genres are important is suspect. And there is no historical fiction subculture.

7. Why write historical fiction, then?

In more ways than one, this is very like asking the question, Why write science fiction? When one writes historical fiction, the displacements into the past serve as a sort of estrangement device, as outlined by Brecht. The

reader reads of a remote period in time, says "how strange, how awful!"—and then recognizes our moment in the description. The recognition strikes home with more force than any straightforward description could.

In other words, when speaking of a novel's ideological intent, it is possible to write historical fiction for the same reason one writes science fiction; to take advantage of the psychological power of the estrangement effect, which in pulling readers momentarily out of their ordinary world views, gives them the chance to see things anew.

This shared purpose is the strongest link between science fiction and historical fiction.

8. Holland's latest novel *Pillar of the Sky* is concerned with prehistory rather than history *per se*, and this returns us to the matter of genre definition we began with, because prehistoric fiction is very often considered a "fellow traveller" with science fiction and fantasy. Robert E. Howard, Fritz Leiber, Joanna Russ, and Samuel R. Delany are just some of the writers who have written prehistoric fiction that is packaged, reviewed, and read as sf/fantasy.

The instinctive grouping of this subgenre with sf/fantasy is perfectly consistent, and makes good sense; prehistory, like the future, is an historical period that is closed to us. In some ways we have a better idea of what prehistoric humanity was like than we do what future humanity will be like, but in both cases, when we write fiction we must speculate and invent—because we do not know what happened or what will happen, and we never will. The methods used to describe these alien cultures are the same.

It is even possible to divide up prehistoric novels between sf and fantasy, saying that they are sf when they attempt to create fictional prehistoric cultures consistent with what archaeologists have told us (i.e., connected to our history)—while they are fantasy when they merely use prehistory as a convenient *terra incognita* in which to place alternative realities (unconnected to our history).

Considering the impenetrable barriers placed between us and the prehistoric past, and the future, and alternative courses of history, it is possible to revise the "historical" definition of science fiction a final time, and say that *science fiction concerns itself with the history that we cannot know.*

9. I have taken the easy road here, and talked about the parts of these books that are easiest to talk about: the themes they share, their political and sociological implications, and so on. A full study would have to discuss Holland's aesthetics, the artistry and sheer creative imagination that are as crucial to her accomplishment as the moral content I have concen-

trated on. Such a study would include discussions of, among other things, the big, complex structures of her novels; the relationship between these structures and the "real history" of the times she writes about; her spare, precise, and musical prose; the "moments of being" scattered through the text, when reality is suddenly flooded with epiphanic clarity and meaning; and the novels' quirky, intriguing characters, with their Shakespearean combination of the universal and the individual. Such a study would state more clearly that these novels are beautiful, as well as important.

10. Holland's body of work is valuable because, among other reasons, there is nothing else like it. The mainstream literature of the dominant culture, in coming after the great masters of high modernism, are like the Jacobean tragedists after Shakespeare, suffering badly from the anxiety of influence. They live in the desert created by the rain shadow of a great mountain range. But Holland has side-stepped that situation. Like the best sf writers of the last thirty years, she has used historical estrangement as a method to speak about our most important concerns; as with the sf writers, the historicity of her work is its crucial, political aspect. But unlike the writers in the sf community, Holland has taken a much lonelier road. There is a whole group of excellent sf writers now, establishing a sort of syntax of forms, a language, an audience. But in the historical genre, novels with the political engagement of the highest art are being written only by Cecelia Holland. Earlier writers—Robert Graves, Mary Renault, C. S. Forester, Kenneth Roberts, among others—can provide Holland with provocative precursors, and the genre's inventor Sir Walter Scott is a more important model for the serious use of the genre than one might think. And good historical fiction appears more and more frequently these days, in "sport" works—notably by Golding, Burgess, Mailer, Fowles, and Guy Davenport. But essentially, Holland has gone a long way on this road by herself. She has put the historical genre fully to use for the first time in its history, almost two hundred years after its invention. That is an important achievement.

It is an achievement that the science fiction community is best equipped to understand and appreciate. We should join Holland's audience, read these books, talk about them, write about them, help keep them in print.

An Introduction to *The Female Man* by Joanna Russ

This was written in response to a request from Nisi Shawl, editor of *The Cascadia Subduction Zone.*

This feminist classic is very swift. Even the longest chapters are short, and the shortest ones take less than a page. In the rush of information the chapters shift not just in character and setting, but also mode and register. As Samuel R. Delany wrote, the styles include "a compendium of (and in *The Female Man,* almost a textbook on) various modes of discourse—rhapsody, polemic, satire, fantasy, foreground action, psychological naturalism, reverie, and invective—each brought, in its turn, within the science fiction frame for the changes that result." This is a good way to see the book.

There are four J's in the novel: Janet from Whileaway, a planet occupied only by women; Jeannine, a young woman brought up in an alternate 1950s USA, where the Depression never ended; Jael, a soldier in a sex war between men and women, in some near future; and the slippery Joanna, apparently the author of the book, who appears from time to comment on the action, and sometimes join it.

The action, though jumbled, has a clear plot, which is the stepwise unveiling of each of the four different worlds' nature, and their relation to each other. Together the tangled scenes tell one story, in 214 packed pages. The compression is explosive; I recall reading the book in a single sitting in 1975, and afterward feeling stunned—slapped around, but also exhilarated.

It is an angry book. Russ wrote once of being "addicted to rage," and I think it is true that anger is her typical literary mood. But she is also very funny; very precise; very tricky, indirect, subtle, ingenious.

She wrote the book between 1969 and 1971; it was published in 1975. It is a very Sixties text, in that it is experimental, revolutionary, graphic, politicized, theatrical.

I think it likely that Russ read Doris Lessing's *The Golden Notebook*, published in 1962, and decided that Lessing's idea of having a woman writer express four different personalities in four differently colored notebooks, which then coalesce into a golden notebook, was a good idea, but not fully exploited by Lessing, because all the voices in *The Golden Notebook* sound much the same, and Lessing seems to abandon her plan about halfway through. Russ literalizes this structure by way of science fiction, with her four people genetically the same but living in four different worlds. The device is foregrounded by this science fiction literalization, and it drives the plot; how are these four J women different, and why? And what will they do together?

Russ only wrote about Doris Lessing once that I can find, in an essay called "What Can a Heroine Do? or Why Women Can't Write," written in 1971. She wrote there, "In novels of Doris Lessing, an authoress concerned with a great many things besides love, the heroines still spend most of their energy and time maintaining relations with their lovers (or marrying, or divorcing, or failing to achieve orgasm, or achieving it, or worrying about their sexuality, their men, their love, and their love lives)." This is not a very generous evaluation, and perhaps it came in the context of Russ writing *The Female Man* and in effect doing more than Lessing did with Lessing's device. Ultimately they were wrestling with similar problems, and the two books would make a good reading pair.

There are moments in *The Female Man* meant to shock the reader. The early cocktail party where Janet knocks down the host is not one of these, as it seems meant to make all readers, male or female, cheer for the tough outsider fed up with the pompous bad guy. The scene fits the template of a thousand other stories, and its gender flip, salutary and instructive, is easy to follow and agree with. Ah yes, one thinks (one man, me, 1975), Janet is a strong sensible person from a strong sensible culture, reacting to a stupid pretentious culture. She's the cowboy in the drawing room, Crocodile Dundee in New York. If I were that woman I would behave like that too! one might hopefully think. And this reaction is a step along a way.

But Janet and her home planet Whileaway keep getting more complex as we learn more. Indeed one of the main plots in this novel is the successive revealing of aspects of Whileaway. At first it can be taken as a version of a feminist, all-female utopia. All the women are above average and independent; romantic love is discouraged; they do all the jobs that exist, they duel, they wander in the wilderness as teenagers, and so on.

These are the early facts we get, which give us the impression this is Russ's version of utopia.

Then we learn that all the children are taken from their mothers at age five and raised collectively. The resemblance to the British upper-class tradition of sending children off to boarding schools, with well-known devastating results, is unremarked; but on page 52 we get the following: "Whileawayan psychology locates the basis of Whileawayan character in the early indulgence, pleasure, and flowering, which is drastically curtailed by the separation from the mothers. This (it says) gives Whileawayan life its characteristic independence, its dissatisfaction, its suspicion, and its tendency toward a rather irritable solipsism." This all sounds quite like the character Joanna, and maybe even Russ herself. And later the narrator adds about this society, "there is too, under it all, the incredible explosive energy, the gaiety of high intelligence, the obliquities of wit, the cast of mind that makes industrial areas into gardens and ha-has... Whileawayans work all the time. They work. And they work. *And they work.*"

Still very much Joanna, it seems. Whileaway is her place; we relate to it, we can still think this is Russ's utopia. Then, much later in the book (p. 143 ff), comes a scene saved as a late surprise. An old woman on Whileaway, retired, goes off on her own. Apparently this is illegal, and so Janet, being a police officer, goes out to find her and bring her back; and when she won't come back, Janet shoots and kills her. That's the law.

This is meant to be crazy, I think, by which I mean Russ intends it to be an assault on liberal or bourgeois values of individuality and respect for life. Russ is here saying, Whileaway is not utopia; it's a civilization in which all the people are biologically female. Such a thing could have fascist elements, and by this example we see this one does have them. Here collectivity is mandatory and lethally enforced, even though the child-rearing method admittedly leads toward solipsism, so that the system as a whole cuts against itself. Being human, it could be bad; it could be anything. Internalizing this message is part of internalizing the title of the book.

Janet follows the telling of this shocking story by explaining to Laur that she is Whileaway's emissary to Earth, and a police officer back home, because by Whileawayan standards she is sub-standard. She puts it like this: *"I am stupid."*

The narrator then goes on to imagine what the murdered old woman, Elena Twason, was like; what a remarkable person she was, how no Earth man would have noticed her, but the narrator would have liked to make love to her, how nice that would have been; but she's dead; and her death was "a bad joke," not on the part of Whileawayan society, but on the part

of Joanna, writing her book. Then the scene moves on, without even a break, when Jeannine comes across Janet's gun and doesn't recognize it for what it is. And then the story moves on yet again, on in its violent rush and tumble, page after page of new information pummeling the reader with a crosschop of contradictions, so that the brief recounting of the legal murder of an old woman almost seems like a bad dream, but still sits there inside the idea of Whileaway—a slap to the face, a shaking by the shoulders till your head snaps on your neck. You think, but wait, I like to wander off in the hills! I plan to do that myself in my own old age! These women of Whileaway, what are they? They're just like men!

In the end you stagger out of this book, knowing more than you did before about being a female man, or any other kind of human; but not in any simple way. The book can't be collapsed to a meaning any shorter than its 214 pages. All the incidents together make its meaning, and then it's a koan to puzzle over.

This is not Russ's only great book.

Her first novel, *Picnic on Paradise*, or *The Adventures of Alyx*, gives us a barbarian sword and sorcery heroine, wrenched into science fiction and feminism both by a spacetime and a generic discontinuity, with hilarious and tragic results. Her second, *And Chaos Died*, is I think the best novel ever about telepathy, an incandescent display of science fiction imagination and prose poetry.

Then came the *The Female Man*, and after that two more novels, *We Who Are About To...* and *The Two of Them*. The first demolishes the idea of a small group of humans crash-landing on another planet and making a go of it. This salutary lesson is solidly ecological in logic, unromantic in import. *The Two of Them* returns to the frequent Russ theme of an older woman trying to help a younger one out of her awful situation in patriarchy. This time Russ critiques the idea ferociously; what's needed, this protagonist realizes, is not individual rescues, but revolution; and if sympathetic men don't get with that larger program, as the protagonist finds is the case with her male partner, then it's appropriate to kill that partner and get on with the real work. Another shock; really all her novels are transgressive and offensive, while also engaging and moving. They are the best kind of novels, troubling and unforgettable.

There are also three volumes of excellent short fiction, very much of a piece with her novels; these are mostly collected in *The Zanzibar Cat, Extra(ordinary) People*, and *The Hidden Side of the Moon*. There is also a fine short novel that seems autobiographical, *On Strike Against God*, which could almost be appended to *The Female Man* as something by Joanna, the styles employed are so similar.

Taken all together, it's not that much fiction. Russ struggled with illness in her last three decades, and wrote little in that time. That's a real loss, but we have to feel lucky we have as much as we do. It's one of the great bodies of work in science fiction, and in American literature. There is nothing trivial, nothing second-rate, nothing off-hand. Even the mimeographed slash fiction written under the name "Janet Alex," portraying the sexual relations of Captain Kirk, Mr. Spock, and Bones, is funny and sexy and moving. Find it if you can!

It's also true that Russ was an excellent critic. That work is mostly collected in *How To Suppress Women's Writing, What Are We Fighting For?* and *The Country You Have Never Seen*. These are crucial parts of science fiction and feminist history and theory. Really, every book she wrote will give a reader immense pleasure and insight, along with permanent worry and pondering. She was a great artist.

I wanted to meet her and tell her how much her writing meant to me, and in her last decade she lived in the same town as my parents, so I probably could have. But I was a little scared of her, thinking she might judge me. Maybe she would have, but I should have tried anyway. Now I so much wish I had. I would have said to her, you changed me.

Lem in California

I wrote this in 2016 at the request of Michal Marek Wnuk, for a Polish anthology he was organizing to commemorate the tenth anniversary of Lem's death. It may have appeared at PolCon 2016. As far as I know, this is its first appearance in English.

When I was discovering science fiction in the early 1970s, I soon established a list of favorite writers. There were a couple of "Golden Age" writers on the list, like Asimov and Sturgeon; also older classics like Verne and Wells and Stapledon; I also liked some of the generation of the 1950s, such as Damon Knight, Edgar Pangborn, Alfred Bester, Philip K. Dick, Cordwainer Smith, and Walter Miller. But the writers I really loved were all in the New Wave generation of the 1960s and 1970s. My favorites, then and now, were these: Ursula K. Le Guin, Thomas M. Disch, Joanna Russ, Samuel R. Delany, Gene Wolfe, the Strugatski Brothers, and Stanislaw Lem.

The Strugatskis and Lem were outliers for me because I was reading them in translation, and therefore often encountering work written decades earlier. That didn't seem to matter. I joined many other American readers who felt that by reading science fiction from the Soviet Union and Poland, we were participating in a global culture that transcended the conflicts of the time. We felt science and literature were both bigger than politics. It also seemed like we might be receiving coded messages or metaphors about these supposedly very different cultures. Whatever the case was in that regard, the Strugatskis and Lem were both very good.

With Lem, the situation was somewhat complicated for me by his essays on Philip K. Dick. At that time I was writing my doctoral thesis on Dick, following the suggestion of my thesis advisors Fredric Jameson and Donald Wesling. So I read Lem's essays closely, as there was little other commentary on Dick to be found. The essays were odd. Lem's fiction, good as it was, seemed to me not different in kind from the Anglophone

science fiction he criticized so harshly. All science fiction writers worked in a genre where much of the work was second rate, but the best was always good, particularly from the 1960s on. It was of course impressive that Lem wrote in several different modes, and did it so well, but his disdainful dismissal of Anglophone science fiction seemed over-emphatic. He had not read enough to know what he was talking about, as his list of sources made clear: two books of criticism by Blish and Knight, five novels by Dick, and a selection of other work. Not only was the sample not large enough, much of it was 25 years old when Lem wrote, meaning he was making a vehement critique of an era already passed.

This kind of mistake happens all the time, of course, and kicking Lem out of the Science Fiction Writers of America for it was ridiculous. I quit the SFWA to protest that move, and stayed out of the organization for eight years, not that anyone cared, as I was scarcely published at that point, and only told people privately why I had quit. But I remained puzzled at Lem's vehemence, so unlike the tone of his fiction.

I had no way to understand his motivations, and found it was better for me to focus on the substance of his critique, and try to take useful lessons from it. Was science fiction itself serious? I thought so, despite the quantity of poor work condemned by Lem and predicted by Sturgeon's Law. Lem too seemed to think so, by the evidence of both his criticism and his fiction. All right then: was *my* science fiction serious? Or, to put it another way, if Lem were to read my fiction, would *he* regard it as serious? In his interviews he often spoke of reading fiction by way of blind tests, which he claimed would change many readers' judgments. If he didn't know who had written it, how would my work fare with him?

This was not the only hypothetical test I put my stories to, of course, but it was an interesting one. I called it the Lem Test. Possibly it resembles the Turing test, which asks if a set of sentences can pass for human. That may seem a low bar for literature to pass, but it makes a good starting point.

To make the leap from a Turing test to a Lem test required trying to imagine Lem's criteria of judgment. In this I was helped by something I always thought came from one of his two essays on Dick, but I have just re-read them, and the passage is not there. Whether it is located elsewhere in Lem's writing or I simply imagined it to be from Lem, I don't know, and I'm beginning to wonder if I simply imagined it, as the idea of Lem quoting Vladimir Lenin on a literary point seems rather unlikely. I did find a similar sentiment in an essay of Lem's called "Cosmology and Science Fiction," where he wrote, "As popular fiction, science fiction must pose artificial problems and offer their easy solution." But what I remember from that time is Lem quoting Vladimir Lenin's definition of

literature as "false solutions to real problems," then adding that Anglophone science fiction had made things even worse by presenting "false solutions to false problems."

This was a criticism I felt I understood (possibly because I had made it up). In too many science fiction stories, and in almost all fantasy, the invented elements of the story get elaborated into both the plot's problems and their solutions. Pursuing this recursive story-generating strategy makes the resulting stories into something like games or crossword puzzles. These are both fine pastimes, but literature is a bigger enterprise. Lenin was wrong (if he ever said it): for me, literature creates meaning. Though it does so indirectly and by symbolic means—in other words, it makes up the meanings—so do all the rest of our epistemological systems, as they all function by representation. Literature is the most fine-grained and particular of the meaning-making systems, and is therefore crucial for humanity.

So, what Lem might have been doing in his fiction, I thought back then, was to return science fiction to at least the level of Lenin's definition (if it was Lenin's): he was reorienting science fiction to real problems. This was also the project of many of the Anglophone New Wave writers, another reason Lem's criticism of them struck me as so odd.

Actually, re-reading the essays on Dick now, most of his sociological analysis of genre in the 1950s was brutally accurate. The modernist high/low split was at its most hierarchical and snobbish, which harmed all art, but especially those genres most despised. That Lem did not foresee how the postmodernist aesthetic would level all genres and art forms to a general equivalency is not his fault. No one predicts everything, not even Lem, and his angle on emergent postmodernism was extremely narrow. So he could not see it, but he was part of a group—not a school, but a generation. And science fiction always responds very sensitively to historical change, so each generation or mini-generation (as they seem to come every decade or so) inevitably fits with his generation. Thus Lem's own work helped to make a change he himself could not see. That he felt he was working alone, and even compared himself to Robinson Crusoe, might have been a result of his partial isolation, or it might have been a willed blindness. Possibly he just enjoyed the feeling of working alone, as many artists do, especially when they are working in a genre with an intense group dynamic, and also a genre despised by mainstream culture. Best then to find or invent your island, if you can, and pretend to be *sui generis*!

Be that as it may, it seemed to me that the Lem test consisted in part of focusing fiction on the exploration of real human problems. After that was accomplished, maybe one could even begin to imagine real solu-

tions—although it has to be said, it does not appear that Lem believed much in solutions. He thought Dick was the pessimist, and once wrote, "measured by the yardstick of Dick's black pessimism, Schopenhauer's philosophy of life seems to be real *joie de vivre*," but Lem himself was not particularly utopian, or even hopeful. He did, however, seem to be interested in survival, maybe just as an evolutionary drive. In any case, he set to creating fictional explorations of real problems. This was my way of describing his project, so maybe it is my own projection of his project, but I think still that there is some truth to it.

However we resolve or don't resolve these theoretical questions, what always mattered to me most was fiction itself, its cognitive and emotional impact. Literature was my epistemology, my religion; it never mattered to me if a writer might be judged a coherent philosopher or not. Philosophy to me is just another genre; religion another; in the end we only have stories. And so fiction becomes a crucial mode among the rest, being a collection of case study after case study. And in this realm Lem never failed me, and never failed science fiction. There was never a dull Lem book, and at their best they were superb.

It's true, as Lem admitted in interviews, that his interest in humanity was general and not particular, so that he focused on the typical rather than the personal or pathological. This would seem to be a problem for a novelist—and it is—but here science fiction helped Lem, because a big part of its genre ancestry is located in the romance and the tale, rather than in the English domestic novel per se. By using science fiction, Lem turned his natural interests and strengths into literary advantages. The large philosophical problems that absorbed him were being illuminated in new ways by the ongoing work in the natural sciences, and these problems therefore had new permutations to explore during the years he was writing. So in his fiction, each of these newly articulated problems was lived and felt intensely by his rather generic characters, and also by his narrators. In Lem, form matched content, and he became an exemplar of science fiction in its purest state.

This fact too helped me to admire Lem when I was young: his work did not do everything that fiction can do. It was like the dream of Golden Age science fiction, done right at last: ideas dominated, characters were typical, there were hardly any women, domestic life was not included. Thus it was possible to love Lem's work for its brilliance and depth, its coherence and wit, while also imagining that there was room for further developments in science fiction, as the genre took on more and more of the qualities of the domestic realist novel. Lem was not the Shakespeare of science fiction, and more than that, there has never been a Shakespeare of science fiction, which is one of the facts that has helped to keep it vibrant

and growing: the best writers can still flock to it without feeling that the form has been brought to its apotheosis by some godlike predecessor. English drama after Shakespeare, and classical music after Beethoven, can serve as illustrations of the kind of rain-shadow-and-desert landscape that such a giant can create.

Of Lem's various modalities, I liked best his straight science fiction stories and his detective stories. Books like *Return from the Stars*, *Solaris*, *The Invincible*, *Eden*, *His Master's Voice*, and *Fiasco*, are among my favorites. These are often concerned with human encounters with aliens, or the Other more generally. In *Return from the Stars*, for instance, the returning astronaut is time-shifted enough to make humanity itself alien to him; in *Peace on Earth*, Ion Tichy's brain is divided and he becomes alien to himself. Time after time the encounter with the Other gave Lem some of his best opportunities. In fact, despite what I said before about Lem's work leaving room for further developments in the field, *Solaris* tells the alien story as well as it can be told, and thus creates the rain shadow I mentioned above: it kills off or renders unnecessary any more alien stories. Nothing further can be said on the topic, and saying the same thing again in a different way would not be very satisfying. Because of this feeling, I have avoided writing alien stories.

Fiasco is notable for its superb opening chapter, in which a man tries to move in a waldo across the frozen surface of Titan. It's a tour de force of physical action and landscape writing, and rather than ending all possibility of further contributions, it invites and inspires more. I also greatly admire the swarm mind in *The Invincible*, and the strange cultural problems in *Eden*, and the disorienting portrait of a future human civilization that the astronaut has to confront in *Return from the Stars*. These are among Lem's best moments.

I also loved his detective stories, which interrogate some law of physics or probability by way of a mystery his characters must confront. *Solaris* took that form, now that I think of it. Lem's more terrestrial versions of this mode have the mood and style of Georges Simenon's Maigret mysteries, but the crimes and their solutions are science fiction in a very literal sense, in that they are fiction about science. I don't think any other writer has done as well in this blended genre as Lem managed in *The Investigation* and *The Chain of Chance*, with the latter reconsidering the issues of improbability raised by the former.

He was also clever and interesting in the various ways he managed to compress short stories until they became avant-garde pieces. These experiments in form influenced writers as different as J. G. Ballard and Italo Calvino, and I myself have often tried to find new forms for short stories, inspired by *A Perfect Vacuum* and *Imaginary Magnitude* and *One Human*

Minute. This method allowed Lem to express his many ideas without being obliged to provide the stage business of ordinary fiction, which clearly did not always interest him, though he could do it well when he decided to. These short pieces were science fiction not just in content but in form, as they are in essence abstracts.

Lem's folk tales with futuristic content, similar to what Italo Calvino did in his *Cosmicomics*, also the Strugatski Brothers in some of their work, did not mean quite as much to me. I wonder if they are part of a European tradition that goes back through Voltaire to romances and to true folk and fairy tales, and in translation it's possible they lose a bit of character. Though Lem's tales were often clever and amusing (the one where his two robots test every possible utopian society in a petri dish is particularly great, as is the one where Ion Tichy gets caught up in every possible time travel conundrum), still, they impressed me the most when they were fastest, as in the Kafkaesque *The Futurological Congress,* which also looks like an homage to Dick.

Over the years I read all of Lem's translated books, because they all gave pleasure. For years I was therefore very sorry to be missing one of his major works, but just a couple of years ago his *Summa Technologiae* was finally translated into English. I was happy to be able to read this at last, and to find it was wide-ranging, prophetic, and written in a style that is relaxed and humorous. The prose of the *Summa* gives me the feeling that Lem was happy to be saying exactly what he wanted, without the distraction of some more-or-less tractable form.

Speaking of translations, I owe a lot to the translators who shifted Lem from Polish to English, in particular Michael Kandel, whose English is so graceful that it is easy to forget you are reading a translation. Without Kandel and the other translators I could not have read Lem, and my life as a reader and science fiction writer would be that much diminished. He will always be one of the greatest science fiction writers, and because of the definitive statement of *Solaris*, a permanent figure in world literature. His characteristic voice, both calm and intense, magisterial but monomaniacal, even crazed, becomes ultimately what one might call *passionately rational*, which is just the right tone for science fiction, and perhaps for science itself. His novels and stories demonstrate that great fiction can result from paying close attention to the sciences, and to the practical and philosophical problems that the sciences continuously create and refine. I still apply the Lem Test to my own books, and to others'; it's a good test; and that is true because Lem passed it himself.

Animal Farm in 1992

George Orwell was a socialist who did not like Stalinism. He made this distinction between socialism and Stalinism earlier than most people, and it has given him trouble ever since. *Animal Farm*, his attack on Soviet history, appeared in 1945, when many Western leftists were still committed to supporting the Soviet Union no matter what it did; and as the right seized happily on *Animal Farm* as a brilliant satire by one of the most famous writers of the twentieth century—and later, as they misrepresented *1984* as a portrait of "what would happen if commies ruled the world"—many leftists cringed and slunk away, muttering about British bourgeois liberals who could not be trusted to toe the party line when the going got tough. And so one of the greatest socialist writers of all time became *persona non grata* for people in his own camp, who could have learned much from him about honesty and independent critical thought.

Now, nearly half a century after *Animal Farm*'s publication—now that history has finally caught up to its last page—it seems a good time to be rereading this book and the man who wrote it.

Orwell read books voraciously as a child, and his value system was the kind of composite thing that a bookish youth puts together from the literature he has read. His formal education in a public school, and his first job as a colonial policeman in Burma, gave him a dislike for the British class system, and for British imperialism. He felt keenly the discrepancies between these realities and the values that his reading had taught him. When he quit the Burmese police in 1927 he was a disillusioned young man, unemployed and temporarily short of cash. He could have ended this state of poverty at any time by taking some sort of job in England—policeman, soldier, clerk—but instead he let himself drift down into the world of the destitute, in the Paris restaurant

world and later among the hoboes of England. He wrote about these experiences, they were published in a 1933 book called *Down and Out in Paris and London*, and he found he had a method. It was a kind of autobiographical fiction, or an early example of what was later called New Journalism; for periods of time ranging from a few weeks to several months, he would live the life of the working class or the completely destitute, and after these adventures he would "resurface," and write down an account of what he had seen. He picked hops and did other harvesting, he stayed in hospitals for the poor, he visited Africa, he went down into coal mines in the north of England. He was never trapped in these various expressions of poverty, he could leave at any time using help from family and friends; he experienced poverty almost as an anthropologist, or even a tourist. Nevertheless he felt a growing sympathy for the desperation of those people who *were* trapped and would never get out, whose suffering during the Depression was severe. The quintessential Orwell passage, for me, is an expression of this sympathy, found in *The Road to Wigan Pier* (1937):

> "The train bore me away, through the monstrous scenery of slag-heaps, chimneys, piled scrap-iron, foul canals, paths of cindery mud criss-crossed by the prints of clogs. This was March, but the weather had been horribly cold and everywhere there were mounds of blackened snow. As we moved slowly through the outskirts of the town we passed row after row of little grey slum houses running at right angles to the embankment. At the back of one of the houses a young woman was kneeling on the stones, poking a stick up the leaden waste-pipe which ran from the sink inside and which I suppose was blocked. I had time to see everything about her—her sacking apron, her clumsy clogs, her arms reddened by the cold. She looked up as the train passed, and I was almost near enough to catch her eye. She had a round pale face, the usual exhausted face of the slum girl who is twenty-five and looks forty, thanks to miscarriages and drudgery; and it wore, for the second in which I saw it, the most desolate, helpless expression I have ever seen. It struck me then that we are mistaken when we say that "It isn't the same for them as it would be for us," and that people bred in the slums can imagine nothing but the slums. For what I saw in her face was not the ignorant suffering of an animal. She knew well enough what was happening to her—understood as well as I did how dreadful a destiny it was to be kneeling there in the bitter cold, on the slimy stones of a slum backyard, poking a stick up a foul drain-pipe."

This central perception, and others like it, made Orwell a socialist. Late in *The Road to Wigan Pier* he wrote, "Socialism is such elementary common sense that I am sometimes amazed that it has not established itself already. The world is a raft sailing through space with, potentially, plenty of provisions for everybody; the idea that we must all cooperate and see to it that everyone does his fair share of the work and gets his fair share of the provisions, seems so blatantly obvious that one would say that no one could possibly fail to accept it unless he had some corrupt motive for clinging to the present system."

Orwell's idea of socialism is never described in much more detail than this, and some have complained (including Victor Gollancz in the Left Book Club introduction to *The Road to Wigan Pier*) that he meant not an economic system, but merely the "fair play" valorized in English literature. My feeling is that when he said socialism he meant socialism—public ownership of the land and of the means of production, universal education and health care, etc. Being Orwell, he described these things in his own words: "Enough to eat, freedom from the haunting terror of unemployment, the knowledge that your children will get a fair chance, a bath once a day, clean linen reasonably often, a roof that doesn't leak, and short enough working hours to leave you with a little energy when the day is done." And he adds: "How easily that minimum could be attained if we chose to set our minds to it for only twenty years!" His stolid British insistence on fairness and justice seems to me to express his belief that the rule of law was an indispensable part of any good government, and that any system of government disconnected from the rule of law could be quickly corrupted by a greedy elite. This disconnection is what he believed had happened in the Soviet Union.

His anger at this betrayal of socialism and the hopes of the poor became personal after his experiences in Spain during the Spanish Civil War. He went to Spain thinking he would research another book like the ones that had come before. He joined an anarchist unit and was badly wounded, and later his unit was dissolved, its members jailed or killed by ostensible allies, in one of the more flagrant examples of in-fighting among the left during that chaotic conflict. This was discouraging enough, but Orwell seemed even more deeply disturbed by the contradictions between what he had seen in Spain and what he later read about it: "I saw," he wrote, "history being written not in terms of what happened but of what ought to have happened according to various 'party lines.'" Propaganda outraged him more than bullets, and it is impossible not to feel the special disgust he directed against Newspeak in *1984*, and the ever-shifting party line of the pigs in *Animal Farm*.

Animal Farm can thus be seen as Orwell's revenge against Stalin. He never gave up on socialism itself; he said of the Spanish war, "It was a class war. If it had been won, the cause of the common people everywhere would have been strengthened. It was lost, and the dividend-drawers all over the world rubbed their hands." And in his late testament "Why I Write" he said, "Every line of serious work that I have written since 1936 has been written, directly or indirectly, *against* totalitarianism and *for* democratic socialism, as I understand it." When confronted by a case of totalitarian socialism, as he was with the Soviet Union, he reacted with the confused fury of a man betrayed. This, to me, explains why Orwell ever actually took the time to put *Animal Farm* to paper. Skewering the history of a revolution that has become a miserable tragedy is not, on the face of it, all that useful an activity, and doing it is only explicable in the context of the whole life of the writer—the disillusionment with the hypocrisy of the British Empire, the months spent living among the destitute, the hope in an alternate system, the bullet in the throat.

So when reading any individual work of Orwell's, and especially this one, I think it is important to place it in the context of his whole body of work, and in the context of his life and times. To do so rescues him from misappropriation by the right, and misunderstanding by the left, and provides us with a complex political thinker and actor, who has as much to teach us now as ever. With the Soviet Union disintegrated, we live in a global capitalist economy that if not changed will wreck the Earth's biosphere and the lives of several generations of humanity. Confronted with this frightening prospect, and with the sorry spectacle of the Soviet attempt to grasp history and change it, all leftists and indeed all thinking people need to reconsider how we can best struggle for fundamental social change. In this reconsideration Orwell can be a real comfort, even an inspiration. His short life (1903–1950) was timed so that his entire adult existence was spent in a world of increasing nightmarishness, in a perpetual crisis at least as bad as ours (perhaps we could call it the same one); and yet he kept his hopes up, he tried to achieve a totalizing understanding of the world which was still true to the facts as he experienced them; meanwhile he steadfastly did the day-to-day work of creating a decent human life, getting married, running a grocery, gardening, writing. If he was a British bourgeois liberal, then so be it; he is an argument for the type; but I think he was more radical than that. This is to say that there is indeed a useful political stance between liberalism and radicalism as they are usually understood.

The typical argument against this assertion is a kind of exclusion of the middle, an insistence that one has to be either one or the other,

liberal or radical, as if there is some metaphysical break-point there between them. The standard leftist dogma had it that if you are liberal you are basically in support of the status quo, and are therefore in the long run no better than a conservative. To be truly radical you had to adhere to a poorly agreed-upon set of beliefs, including the fundamental irredeemability of capitalism, the necessity of revolution, etc. To assert in word or deed that there are practical stances that lie between these two positions was to slide immediately back into liberalism, or at best to fall into a Bad Zone, poorly explored theoretically, and generally scorned by those on both sides of it. But Orwell, with his bourgeois values from English literature, alongside his insistence on socialism, serves as an excellent model for the exploration of this Bad Zone. Naturally he ends up sounding confused at times, as early explorers in their despatches are wont to do; but in this post-Cold War period, faced with the new crises of growing population, shrinking resources, and the increasing polarization of North and South, we need the experiences of political explorers like Orwell very badly. The rote advocacy of armed revolution—often made in First World universities where the weapons systems that so efficiently kill actual Third World rebels are also designed—no longer seems a worthwhile form of praxis. And yet the dominant power structure is still corrupt and dangerous, so that the world still desperately requires fundamental social change. What to do? In this locked moment of history all the old answers and orthodoxies have become suspect; and so new forms of radicalism, more subtilized and more successful, are badly needed. Here Orwell can help us.

The ancient tradition of the animal fable has furnished us with a very potent symbology, the various animal species representing distillations of various facets of human character, so that we are more piggish than pigs, more doggy than dogs, more sheep-like than sheep, etc. In fact the usual cast of story animals make up a characterological system, akin to the four humours or the many schemes proposed by modern psychology; but the animal schema is different, implying as it does that different people have radically different capabilities.

In many respects the assigning of the animals to various human classes and groups is the most controversial thing Orwell did in his fable. Of course the animals are another way of representing class, and the fact that class still existed in the Soviet Union after the revolution is certainly one of the points Orwell intended to make. But is he really saying that if one ruling class is removed, the smartest among those remaining will immediately step in and start exploiting all the rest? And is he really saying that the working class is fundamentally stupid, so stupid as to be uneducable?

So it seems: I do not know how to avoid these interpretations, though I would like to.

Still, even in this bleak reading of history and human differences, Orwell's deepest loathing is for the pigs—for those who lie to the poor and weak, and train doggy people to become killer police, and live in drunken excess while their fellow animals suffer. And the pigs' worst sin? That they finally come to look just like us.

So the last page of this powerful allegory should give us pause, as it was meant to do. There are now five billion people in the world, and there will be ten billion before long, and we need Orwell's central perception, that feeling of solidarity with the other, more than ever. For, to return to the image from *The Road to Wigan Pier*, about a third of us are still riding away in that train, looking out the window; about a third are still out there in that cold slum, miserably trying to clear a clogged drainpipe; and the last third, mostly invisible to us, are homeless and starving, worse off than even that poor woman.

We are stuck on the last page of *Animal Farm*. We can once again call the world Manor Farm. But I don't think that's anything to cheer about. Better to try another revolt, in a different way, and do it right this time. After all, those sheep are smarter than they seem, and dogs can be good citizens. Make Boxer the mayor and the hens town council, and as for the pigs and the people—well, we'll figure out something. History has finally caught up to this book, and now it cries out for a sequel.

Kim Stanley Robinson
Davis, California
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An Introduction to *Ubik* by Philip K. Dick

Ubik marks the end of Philip K. Dick's career as a commercial science fiction novelist. This wasn't obvious at the time of its appearance in 1969, nor is it obvious even now, given that Dick published almost a dozen more novels after this one, before dying unexpectedly in 1982. But what I mean is this: from the time his first novel, *Solar Lottery*, appeared in 1955, until the time of *Ubik*, fourteen years later, Dick had been writing at a furious pace, in a style and mode that he had invented for himself by a process of insistent repetition. In these years he published about twenty-five science fiction novels, and wrote about a dozen more realist novels that didn't get published, plus scores of short stories. His rate of production was incredible. After his death, the discovery of his million-word *Exegesis* added to an impression many had already formed, that Dick may have suffered from hypergraphia, a mental disorder in which one is helpless to resist an impulse to write things down. At first this sounds like a useful problem for a professional writer to have, but in fact it is an affliction, apparently the result of a biochemical regulatory issue in the temporal lobe, a part of the brain that is also involved with religious visions. It may be no coincidence that many religious visionaries have been impelled to write down their thoughts and opinions at great length, and Dick himself became quite metaphysical in his last decade of his life, as the *Exegesis* and his *Valis* novels make clear. So there may be some element of the writer as obsessive mystic that is central to the PKD legend.

In any case, through the 1960s Dick seemed mostly to be a commercial science fiction writer with a specialty in what I have called "the reality breakdown," which after the fact can be seen as an earlier metaphysical or ontological strain in his thinking. In these stories, which represent his characteristic mode or style, and his major contribution to the genre's

toolkit, whatever reality his characters at first confront quickly falls apart or melts away, revealing a more fundamental reality underneath the façade of our surface sensorium. It's at that deeper ontological level where Dick's characters must make their stand and fight something—entropy? death?—as best they can. He wrote variations on this theme over and over again, from his first clutch of Ace novels, published in the mid-1950s, until *Ubik*, which was published in 1969.

By that point he was clearly at the end of his tether, exhausted both personally and narratively. As he once expressed it in a letter to a friend, "I am a poet and write in loftiness, but money doesn't come." Through the Fifties he had perfected his craft and made a name for himself, and when he stopped writing realist novels at the end of the decade, and devoted himself entirely to his successful career in science fiction, his divided literary character united to create the triumph that was *The Man in the High Castle*, published in 1962. It was a kind of realist science fiction created by the unification of his two halves as a writer and thinker, and as Ursula Le Guin put it in an introduction to that book, it was perhaps the first masterpiece of a novel to have come out of American science fiction.

After that success Dick wrote just as fast, but with a new confidence and sense of purpose. Across the middle of the Sixties his published work, though uneven, included several novels as impressive as *The Man in the High Castle*, such as *Martian Time-Slip*, *Dr. Bloodmoney*, *The Three Stigmata of Palmer Eldritch*, and *The Simulacra*. But despite these successes, and several other novels of immense charm and interest, Dick remained hard-pressed for money, and also for a sense of psychic and emotional stability. The Sixties were a chaotic time, and many people much less sensitive than Dick were affected by that omnipresent and inescapable sense of chaos. The world seemed to have come unhinged; every year brought new amazements; it felt like a cyclone, and it was impossible to guess how much more violent the centrifugal forces were going to get. Dick's personal life appears to have been similarly deranged, and his literary successes, such as they were, never gave him much financial or emotional relief. He could only write on, and hope to keep his head above water as best he could. The result was sixteen novels published in five years, coming in the midst of a rapid succession of personal relationships and physical moves from around California's Bay Area. To meet his deadlines and pay his bills he had to write faster and faster; some of the novels from these years were written in two weeks, and he sometimes used amphetamines to get them done. The side-effects of using this drug sometimes became noticeable, to him and to those around him. The end result was a sense of exhaustion and emotional disintegration, and *Ubik* is an expression of that feeling, what the New Critics would have called its objective correlative.

The formal devices that PKD used to turn all that chaos into art were the same ones he had been using all along. He deployed his usual cast of characters, in their usual structural array: there is a Big Protagonist and a Little Protagonist in an entwined plot, a Dangerous Young Woman, a Steady Friend, a Powerful Mysterious Antagonist. The Little Protagonist is, as always in Dick, caught up in a problem that the Big Protagonist is first to confront. The story's initial crisis then draws the two of them into a fight against the Powerful Antagonist. In *Ubik*, the Little Protagonist is iconic; Joe Chip is perhaps the epitome of all Dick's hapless repairmen and clerks and small time employees, and his argument with his apartment's door at the opening of the novel is one of the greatest scenes in all Dick's work. *Ubik*'s Big Protagonist, Glen Runciter, is on the other hand even vaguer than Dick's Big Protagonists usually are, and he exists mainly to serve as a crucial element in the conundrum that lies at the heart of the novel's reality breakdown. Sharper by far is the book's Dangerous Young Woman, as Dick recycles in Pat Conway his dismayed apprehension of a hypnotically attractive but malevolent *belle dame sans merci*. It's only much later, in *A Scanner Darkly* and *The Transmigration of Timothy Archer*, that Dick makes the attempt to imagine this character from the inside, thus finally raising his game as novelist in an important way. Here, Pat Conway is typically as bad as bad can be.

All these Dickian recyclings in *Ubik* give it the feeling of being worn down by repetition to a high polish. The story has a stripped-down, almost featureless plainness, and paradoxically, this may account for some part of its power. There are no distractions created by the baroque, almost random piling-on of science fictional elements; this piling-on was such a regular feature of Dick's mid-Sixties novels that it could be said to constitute his style in that period. *Ubik* is simpler than those novels, which may make it more effective; certainly it's more iconic.

This is made clearest by the chapter epigraphs that invoke the book's title time after time. These commercial announcements for the all-purpose commercial product Ubik place the novel squarely in the tradition of 1950s science fiction's social satire, best represented by Pohl and Kornbluth's *The Space Merchants*. Here in *Ubik*, Dick raises the stakes on Pohl and Kornbluth's absurdist exaggerations, taking them to a fully ontological level. The product Ubik is ubiquitous, and it's good for anything and everything. It is the objective correlative of the capitalist imaginary and structure of feeling. The tacked-on cautionary messages, in the "safe if taken as directed" mode now so familiar, was obviously in 1968 an emergent phenomenon. Dick clearly found it funny, even though these first warnings are quite simple compared to our present-day labels, which one wishes Dick had lived to see and satirize—in his absence, Steve

Martin has had to do the job of writing an entire short story in the form of a warning label run amok. But Dick saw enough right at the start of the phenomenon to make this the key to his book, and a big part of why *Ubik* stands out in PKD's work as the paradigmatic example of commercial satire gone existential.

The epigraphs also make clear how we should interpret the science fictional novum featured in this book, the "psionic powers at war" theme that powers the novel's plot. It was common for Dick to use parapsychological powers in his novels, exploiting features of all the ramshackle pseudoscientific elements of Fifties science fiction and pop culture, including telepathy, precognition, telekinesis, voices from the afterlife, and so on. These are often justified in Dick's texts by the merest hand-waving, "explained" as the result of mutations following nuclear wars or radiation leaks, or simply cosmic accidents. Really they are simply holdovers from the narrative toolkit and emotional allegorical system of earlier supernatural fictions. In American commercial science fiction, they are part of the 1930s Van Vogtian super-science mode, an attitude that in the future "anything goes," making science fiction into a fantastical jumble of "futuristic" developments that didn't have to cohere, either narratively or in the sense of any rationally comprehensible future history. They didn't have to make sense because the future was going to be weird.

Psi powers are in fact one of the main reasons that Dick's novels feel so cluttered, even "trashy," as Stanislaw Lem put it in two famous articles about Dick's work. They may just be a surrealist effect expressing accurately the feel of the time, but in truth psi powers do seem to disfigure several of Dick's best novels, where they feel like unnecessary excrescences, weighing down books that are really about something else. At most they are perhaps the reverse of Roland Barthes's "*l'effet du real*," which Barthes said was created by details added to a text for no other reason than the writer's implied assurance that they had to be included because the story really happened that way. In Dick's work, psi powers seem often to be added to create "*l'effet du irreal*," the effect of the unreal—that very palpable Sixties sensation that the world had gone mad.

But here in *Ubik*, psi powers are the central novum marking the story as being about the future; they are ostensibly what the story is about. This choice in itself is part of what makes this novel "pure PKD." More importantly, the combination of psi powers with the chapter epigraphs about the commercial product Ubik make it clear at last what psi powers are meant to stand for in Dick, symbolically or allegorically. They exist to express a world in which commercial products have taken on magical properties in our minds; they're about what Marx called the commodity fetish.

In short, it's all about advertising. What is advertising, after all, but an attempt at precognition, telepathy, and mind-control? And so, if there was a company that worked (by telepathic means) to cancel out the effects of psi powers, as Glen Runciter's company says it can do (for a fee), then this company's "inertial" project would consist of making an attempt to create some kind of shielding *against* advertising, and thus, perhaps, a valiant defense of reality itself—but also commodified, in that your resistance to commodification is itself made into a commercial service you have to buy. But very soon in the story, this company gets blown up. Then everyone is in free fall, dropped through a trap door, through a genre discontinuity, into a kind of horror story in which the main character is crawling upstairs against entropy. The black comedy, in the way everything is reverting to Iowa in 1938, etc., remains as a residual, as part of Joe Chip's heroism, but the sense of horror predominates.

Throughout his career, Dick's novels often contained a meta-narrative element that made them a kind of emotional, and sometimes even factual, autobiography. Here in *Ubik*, he records his feeling of things falling apart and coming to an end. In fact he lived on until 1982, dying of strokes caused by high blood pressure, at the early age of 53. In those last years he published several more novels. But these tended to be fix-ups of earlier work, or desperate attempts to get back into his older more productive habits. In *A Maze of Death* he tried to express this feeling of an end by systematically killing off his usual cast of characters, as in Agatha Christie's *Ten Little Indians*. Then in *Our Friends from Frolix 8* he began inventing a religious solution to his existential exhaustion. This culminated in the powerful last novels of his life, the *Valis* trilogy, or quartet if you include *Radio Free Albemuth*. These late novels, along with his unpublished *Exegesis*, an attempt to explain his "pink beam" epiphany of March 1974 (which was possibly an earlier stroke), meant that he kept writing to the very end. I have no doubt he would have written to his last day no matter how long he lived; he was compulsive about it, he was hypergraphic.

Nevertheless, *Ubik* marks an end of the main phase of his career. Its black comedy, and Joe Chip's stubborn persistence in the face of universal commodification and its resulting existential dissolution, is the summa, the final statement in Dick's lifelong attempt to wrest some kind of meaning out of American postwar capitalism. It couldn't be done. This is why the final conundrum of *Ubik*'s plot can't be solved. This is clearly a deliberate move on Dick's part, and not just a final twist in O. Henry style. It's a Gordian knot, tying us all together into the same catastrophe. After this book he had to go mystic, and he did.

Happy Birthday Ursula

On one of my visits to Ursula, around 2005, she told me that one of her brothers, probably Karl, had been given a festschrift by his academic colleagues to mark his eightieth birthday. I could tell she thought this was a cool thing, and I mentioned that to Karen Fowler next time I saw Karen. Karen and Debbie Notkin took the idea and ran with it. This is my contribution to the volume that Karen and Debbie assembled.

After Ursula's death, I gave a talk celebrating her at the Long Now Institute's bar in San Francisco, The Interval. That talk can be seen online at: https://theinterval.org/salon-talks/02018/nov/13/learning-from-ursula-le-guin-robinson-ksr

It began for me with some slim Ace paperbacks. *Planet of Exile, Rocannon's World, City of Illusions.* They all had travel in them, wilderness travel. People on foot, or carried by flying cats, or sailing, or cross-country skiing. Making their way across a landscape. I loved them for that. They were in a line with Edgar Pangborn and Jack Vance and Clifford Simak, a type of science fiction aware of the romance of other planets, aware also of human depths and the mystery of things. And these new books were especially knowing and sure, pitch perfect in both anthropological language and the rhythms of myth—they were poetry.

So I, like a lot of other people, was well set-up for *The Left Hand of Darkness.* This book was everything that had come before and more. It had the travel and the mysterious beauty of the earlier Hainish novels, and then also it had its big metaphor, an image for us here and now which said: we are all just people. Occasionally gender matters, but often it doesn't. There are roles we play, and attributes we label masculine or feminine that have nothing to do with reproduction, but these are qualities that shift around, both among and within people.

That powerful image of wholeness, combined with the great trek of Genly Ai and Estraven across the ice, created for me one of the best science fiction novels ever. From its time of publication until now, I like many others have put it forward as an exemplar of not only how good science fiction can be, but also how it can do things that other kinds of fiction can't.

And it changed the way I saw people, including myself. For some years I got to play that role we call "Mr. Mom," and as I lived it I understood it partly in terms learned from *The Left Hand of Darkness*. The king wasn't pregnant, but he sure did a lot of bottle feedings. Sometimes it would make me laugh.

Then I laughed again at *The Lathe of Heaven*, and read with awe *The Wind's Twelve Quarters*, and I recall very distinctly the cover and underweight heft of a Science Fiction Book Club edition of *The Dispossessed* that a friend lent me one day in 1975. I began to read it at my parents' house in my old room, and at some late hour reached what my wife and I would later call the Dickinson Point, by which we mean that moment when you realize you are going to have to finish a book even though it is already past midnight. I read through that night, on fire with the feeling that science fiction could do anything.

Later that same year I returned to UC San Diego to go to graduate school. I had given up on a Ph.D. program in Boston because of the climatic shock of my first-ever winter, and back at UCSD I quickly felt that I had made a mistake, even ruined my life. I was so bummed I told my new university acquaintances to call me Kim.

I had been to Clarion, however, and had sold a couple of stories, so I focused on my writing, and after a time adjusted. And then the literature department announced that Ursula K. Le Guin was going to be teaching on campus in the spring quarter of 1977. Maybe returning hadn't been such a mistake after all!

As I understand it, this was the first time Le Guin had been invited to teach at a university. The invitation was mainly the work of Professor Robert Elliott, who had written a book on utopia and was a fan of Le Guin's work. The plan was for her to come for the last month of the quarter, with my friend Lowry Pei teaching her classes until she arrived, after which he would team-teach with her. A good plan; Lowry is a great teacher, and he handled everything perfectly. By the time Le Guin arrived we were all very excited to have her with us.

She taught two classes, one on the literature of science fiction, the other a writing workshop. I took both of them.

The literature class was a seminar of about fifteen or twenty people. The class met on Tuesdays and Thursdays, and we were asked to read one novel per class, with two students making reports on that day's book, and the rest then discussing it. The novels Ursula assigned were *Hard To Be a God* by the Strugatski brothers, *Martian Time-Slip* by Philip K. Dick, *Camp Concentration* by Thomas Disch, *The Invincible* by Stanislaw Lem, *The Fifth Head of Cerberus* by Gene Wolfe, *The Dream Master* by Roger Zelazny, *The Exile Waiting* by Vonda McIntyre, and *And Strange At Ecbatan the Trees* by Michael Bishop. We also discussed at some length Italo Calvino's novels *The Non-Existent Knight*, *The Cloven Viscount*, and *The Baron in the Trees*, which I think were recent discoveries of Ursula's, and perhaps her addition to the reports. She led the discussions with a light touch, and an obvious pleasure in the books she had chosen.

In my report I joked that Number Five's name in *The Fifth Head of Cerberus* seemed to be "Gene Wolf," which made Ursula laugh. On the other hand, if one were to say something insulting about one of the books, as only a foolish young man would do, she could skewer one promptly and effectively.

She kept five hours of office hours a week, and I dropped by fairly often. It seemed to me that any time she spent alone during those hours would be time wasted.

In the writing class her method was mainly the workshop system developed at Clarion and Milford; I believe she had taught a week at Clarion West a year or two before. We wrote stories, turned in copies to her and all the other students, and commented on them as a group. She also gave us some in-class exercises, and made suggestions for kinds of stories to try outside of class. One in-class exercise was to write a brief story entirely in dialog. A suggestion for stories written outside of class was, "Set a story Elsewhere." Eventually Ursula turned in a story of her own to be workshopped, as did Lowry.

Ursula was very supportive of writing of all kinds, and as the month passed she helped us to cohere as a group of people who cared for one another, which is really the important thing in a workshop. I recall parties with her sitting on the floor. And I have a strong memory of her sitting immediately to my left when the class went to see the new movie *Star Wars*; we laughed our heads off. As a space opera spoof it was even better than *Buck Rogers in the Twenty-fifth Century*.

At some time during the month I gave her a long mess of a novella, which I later sorted out as the third part of *Icehenge*. She dutifully read this and made what comments she could. That was a generous thing to do, given how much other reading she had; and she encouraged me in

the best way possible. Write more, she told me. Finish more stories and see what happens.

There were people in the workshop writing excellent stories out of their own lives, heartfelt things that seemed to me to put science fiction to some ultimate existential questions. Why write science fiction at all, when people could say things so clearly and directly? What was the point? I talked to Ursula about these questions, and afterward pulled out a backpacking story I had started and abandoned two years earlier. Three friends in the high Sierra, one of them recovering from a head injury. The more I understood that the brain damage repair was both a science fiction device and an image for how I felt, the more "Ridge Running" became its own thing, separate from my trip while still relying on what I had done and seen up there.

I like this one best of all your stories, Ursula said when the story was workshopped. You should think about doing more like this one.

That was an important moment for me.

At her going-away party I gave her a paperback of *The Dispossessed* to sign, and she signed it "To Kim/Stan Stim/Kan—you know who I mean. Love Ursula."

Since that time I have seldom seen Ursula. I've read her subsequent work with great pleasure, from *Malafrena* to *Lavinia*. Every once in a while we have corresponded a little; I have treasured her letters, and keep them in such a safe place that I can't find them anymore. Recently, when I have gotten to meet her for lunch in Portland, sometimes with Molly Gloss, it is a special occasion for me. I hope for more of them.

Then also, often through the years, when trying to explain what I do, talking about both science fiction and nature at once, and seeing on people's faces that they think I must be a hopelessly confused person, I have invoked Le Guin's name; and often they have nodded and said Oh, yes, now I see what you mean. I'm reminded of a moment in the film documenting Louis Armstrong's seventieth birthday party at the Newport Jazz Festival, when Dizzie Gillespie takes the mike and with hand on heart declares, "This person *invented my livelihood.*" It feels like that.

So happy birthday Ursula, with love and thanks from your Stan.

Delany Considered

—as a helix of very precious stories!

This is a transcript of a talk I gave at the NASFiC in 1990 in San Diego, when Delany was guest of honor. Chip was my first teacher at Clarion in 1975, and among many other important and useful lessons, he cured me of the Kim/Stan split I was suffering at the time. We've stayed in touch off and on since then, always a pleasure.

Hi everyone. I'm looking at my class notes for the Delany week in my science fiction course at UC Davis, and realizing that for this audience they are useless. There is little reason to tell science fiction fans the background information I told that class: that Delany is black, that he's from Harlem, was dyslexic, is gay. You all know that already. In fact you already know everything that I'm going to say in this next hour. But Delany is the guest of honor of this convention and so this is a good moment to celebrate him, and relive some of the pleasures that he's given us over the past twenty-five years.

So, no biography; nor do I want to talk much about technical aspects of Delany's writing, except insofar as they can help explain the pleasures of reading him. Instead I'll talk about how his books struck me, and you can see whether this reminds you of what happened with you. So there is biography here, but it's mine. And I'll make one more concession to biography, and talk about the books in their more-or-less chronological order of appearance, feeling that that probably makes better sense than other alternatives, such as alphabetical order or page count.

So we start with four books I don't actually remember very well, *The Jewels of Aptor* and the trilogy called *The Fall of the Towers*. It's been said these are juvenilia, but that's an odd term. Some people start living adult lives when they are quite young, and then if they write, it's not really the same as what is meant by juvenilia. Raymond Radiguet for instance had

written all his novels by the age of twenty, and they are good novels, both of them. Here it could be noted too that there are many writers whose work has never risen to the level of these first four books of Delany's. Now, when I read in them, I don't get caught up; but I remember how they struck me when I first ran into them, when it was a case of a young mind speaking to a young mind. I saw then flashes of intensity and exoticism that sparked in me, and when I finished them I looked for more Delany on the shelves.

City of a Thousand Suns, the third in the trilogy, was the first Delany I read. My copy of that Ace paperback, which I still have, says over the title, "Beachhead for a galactic assault." The cover is garish red on white, stark and simple, and looks like the platonic form of all bad sci-fi paperback covers. It's beautiful. So when I finished it, and the rest of the trilogy and *The Jewels of Aptor*, I went back to the scuzzy and magnificent used bookstores of downtown San Diego and found what are roughly the next two books, *The Ballad of Beta-2* and *Empire Star*. They were very short novels, compact and smart. What I had liked in the first four books had come to the fore in these, and was sharper than ever. I think my dominant impression here was of a clever writer who was having fun, someone with a lot of sophistication and dash. A certain playfulness was very evident. It took about an hour each to read these books, and when I was done I said, "That was fun. I want more."

Very quickly in those years you could get more. Not only that, but the books that followed represented to me another jump again, to what I believe are the first two great books by Delany, *Babel-17* and *The Einstein Intersection*. Reading those two was when the experience of reading him became for me very powerful, changing my sense of what science fiction could do and making him central to my idea of science fiction, along with a handful of other writers, mostly contemporaries of his.

There are of course books that are precursors to *Babel-17*, such as the works of Jack Vance and Cordwainer Smith, depicting future civilizations that are diverse, colorful, vivid, exciting, strange. But *Babel-17* presents this galactic future more forcefully than anything I had read to that point. And it was an eye-opener because of the way it opposed so much of the Golden Age's consensus future, which suspiciously resembled a permanent extension of white middle class America. As we all know now, the year 3000 in Golden Age science fiction can look very like the USA circa 1950. But that vision is shattered by *Babel-17*, which shows so convincingly that all social conventions and institutions will change. The book's future is persuasive, which is quite an accomplishment given how spacey it is; and one is left also with the feeling that the world would be better

off if it changed in these ways. The future presented is a utopia made of infinite diversity, a kind of galactic New York.

Delany's vision has been so influential that we don't see it anymore, we merely assume far future galactic civilizations will resemble the one in this book. In that sense our future has become Delanyesque, and indeed in this book we see come together all those traits that now make up the adjective *Delanyesque*.

That the hero of the book, the spaceship captain, is a woman and a poet, was also influential in ways that are hard to remember a quarter century later. It's not like this book did it alone, but it was widely read, it was influential, and it was part of the movement that changed a lot of people's thinking about what was possible in science fiction, in the future, and in the present. Of course in the first moment of simple reversal some things stay the same, and Rydra Wong has some characteristics of the old white male science fiction captains who came before her. She's pretty incredibly perfect, for one thing. She's basically omni-competent. We like our science fiction heroes to be like that. We like our science fiction heroes to be omniscient, omnipotent, and omnipresent, if possible. That's so we can identify with them. And so Rydra is not probably the most realistic character of all time, but nevertheless she's a powerful icon, and that's how she works as a character. Understand that there are different kinds of character in different kinds of stories; Northrop Frye is good on this in his *Anatomy of Criticism*, where he explains that the characters in epic poetry are not in the same mode as those in realist novels, or in savage satires, and it is a category error to criticize one of these using the norms of another. So Rydra is a kind of epic hero, larger than life. Later Delany will often shift levels in the kinds of characterizations he employs; by now he has used all those listed in the Frye anatomy.

It's also true that *Babel-17* is about language, and so linguistics gets added to the sciences that science fiction talks about. Jack Vance did this a bit in *The Languages of Pao*, but *Babel-17* even more foregrounds the linguistic, and this is right at the time when literary studies were looking again at issues of language and reality, so it was timely. The actual linguistics in the book I find odd. There is a weird concentration on diction, on vocabulary, rather than on syntax and grammar. I believe there's a language discussed in this book in which a spaceship can be described in nine words. This is supposed to be an amazing fact, although I think you could probably do it in German today. What I would like to have seen is more speculation on different syntaxes or grammar. Is Chomsky's notion of a deep grammar correct? Would aliens have alien grammar, and could we conceive it? There's a gesture in that direction in the book, in that

there's a character called the Butcher who has an "I-you" reversal problem, a syntactic dyslexia. But I'd like to have seen a drop into an alien grammar and therefore an altered reality, and so on.

Two scenes in the book remain with me strongly. One involves the three-dimensional sumo wrestling that pilots have to do, knocking each other out of a gravityless sphere in order to determine who would make the best pilot. The other is the destruction of the bad general's banquet. These are vividly physical scenes, evoked by writing of great precision. I remember those scenes as if I had read them recently, though it has been many years.

The other book in this quick rise to Delany's full power is *The Einstein Intersection*. To me this book exists throughout at the same level of intensity that *Babel-17* rises to in its best scenes. The book is a kind of prose poem; it's extremely compact and full. There's no wasted exposition, and every sentence seems crafted not just to give information but also to be beautiful in and of itself. Delany has a close interest in poetry, but has never written it, except in his own form, which is prose.

The Einstein Intersection is a strange novel, surreal one might say. The idea that aliens have come down to Earth after humanity has left and gone off into a higher or different dimension, so that the aliens have taken over Earth in human bodies in order to rework their way through our old myths and start building new myths—that's a strange idea. I'm not even sure I got it right, now that I say it. Anyway it allows Delany essentially to write a fantasy novel in a science fiction frame. In other words, a science fiction explanation is given for events that are surreal and mythic in content.

We talk now about the subgenre called science fantasy, which I think is something Jack Vance made manifest in his Dying Earth stories, wherein one goes so far into the future that a completely fantastic novel can take place and yet there is a science fiction explanation underneath all the events, which is simply its so-distant futurity. So it's science fiction by that one limited definition, but fantasy in texture. Wolfe's *The Book of the New Sun* has become the preeminent example of this subgenre. I think *The Einstein Intersection* is one of the great science fantasy novels, and importantly it does what few fantasy novels do, even though the need is very evident: it's short.

Another thing that impressed me about *The Einstein Intersection* when I was young and reading it for the first time were those passages in italics that start off the chapters, which consist of excerpts from the author's journal, written as the author wrote the book while traveling around the Mediterranean. I suppose that these excerpts are pretty much as fictional as any other part of the text. But what a beautiful fiction, what a great

idea, the notion of traveling around young and poor in a kind of itinerant way through the Mediterranean basin, writing this very peculiar prose poem as you go from one strange real life adventure to the next, trying to incorporate the adventures that you're having into the text you are writing. I just find this to be very romantic. It made a very powerful impression on me at that time, it was something I wanted to do myself.

And in fact I went over and lived for two years in Europe. And I remember one day taking my laundry back up from the basement and tripping over some construction work in the street and spilling my fresh laundry over the mud in the street, and in that moment I was thinking, crying out in my head, "Chip, what went wrong? Here I am in Europe like you were, and yet I find myself with my laundry in the mud in the street and it's raining and cloudy in Zürich." And in the book that I was writing there at that time, instead of making revisions like "Change Kid Death's hair from black to red," I was thinking "Man I've got to throw out three hundred pages and start over from scratch." So there was the usual contrast between the romantic vision and the mundane reality. And yet still, even in those mundane moments, I was having more fun because of the vision that led me. It's always that way, or should be. We have an imaginary relationship to the real situation, and good novels help us to shape that relationship. So a book read twenty years before could make me happy in the mud.

Somewhere around these same years Delany was also writing the short stories collected in *Driftglass*. I really admired those stories. They were like the novels, compact and full, poetic and vivid. Almost every one of them has a touch of sadness or pain that I found to be somewhat new in Delany's work. The collection exudes a sense of melancholy, so it seems to make a coherent statement as a volume. Some of the individual stories are very well known: "Time Considered as a Helix of Semi-Precious Stones," "The Star Pit," "Aye, and Gomorrah," "We, in Some Strange Powers Employ, Move on a Rigorous Line" (this last title is from Matthew Arnold of all people, a line from a poem of his called "The Gypsy Scholar.") These stories are well-remembered, even the titles are well-remembered, because they are some of the most powerfully emotional stories that our field had seen up to that time. Together they constitute a kind of science fiction *Dubliners*. For me, there are three great sf short story collections: Ursula Le Guin's *The Wind's Twelve Quarters*, Gene Wolfe's *The Island of Doctor Death and Other Stories and Other Stories*, and Delany's *Driftglass*. They set a standard for what a short story collection can do in science fiction that is very seldom achieved.

After that comes the novel called *Nova*, which I confess I don't remember very well, and which I believe represents a drop from the intensity of

the previous two books and the short stories. Maybe it's just I was getting used to it; inevitably you can't surprise people like you do at the beginning. Anyway this one seemed very self-conscious, and I felt archetypes hovering; in the first pages, an ancient mariner walks into a bar and grabs somebody and blurts out the story of *Moby Dick*, and for me that was just too much.

But this is carping about a book that is fun to read, and which seemed to address some existential concerns that the writer was perhaps dealing with in real life. It even made me wonder, as I read it, what would happen if he were to write about the world we live in now. But mainly I simply thought, "Okay, let's have more." Because in those years you could count on a new Delany novel about every year. So when *Nova* was done, despite my slight dissatisfaction with it, I was still very much looking forward to the next book coming out.

But then came the Great Silence. It seemed to me to go on forever, but apparently, historically it was only about five or seven years between copyright dates.

Since we have this historical gap, I want to take a moment to expand on my impressions above. So far this has been a criticism of adjectives, more or less what you see in book reviews: Vivid! Intense! Clear! Full of clarity! One can go on and on like that, and many reviewers do. But how? Why? What do these attributes mean or add up to? And how does he do it?

Here a quick recourse to a couple of those biographical facts. A black child, growing up in Harlem, but shipped down to an expensive prestigious private school during the days, is living a dual life of great linguistic stretch, hearing and speaking standard or pretentious English and also the various dialects of English practiced in Harlem in those years, as well as any number of versions of immigrant English and New Yorkese. No observant child could fail to notice that language was capable of great variation, and that you could use it in a multitude of ways. Linguists call these registers, there are scores of them in English, and they each have their different effects and their different poetries.

Another relevant biographical fact is his dyslexia, which made it hard at first for Delany to read. Many of us left-handers have that problem, but his was apparently extreme. So when he did read, he had to pay very close attention, not just in the way that we usually pay attention, but also to word-by-word construction, which I think might partly explain the style that he ended up inventing.

There are two kinds of writers; those who make distinctions and say "there are two kinds of writers," and those who don't. But really, there are two kinds of writers. First, those who take the language as it is, and try

to use it to say what they want in more or less its pure form. You could call them classicists, writing classic English prose out of the tradition of Addison and Steele, Johnson, Lamb and Hazlitt—the great prose tradition. You can see Joyce do a chapter of *Ulysses* that runs you through this tradition, each paragraph moving a bit further through the years. An example from our genre is Thomas Disch, who takes the language as he found it, and simply wields it in a highly skilled and talented manner to say what he wants to say. This leads him naturally into pastiche, parody, irony, and the various Disch trademark gestures we see.

At the other pole, kind of conveniently, since the two of them are sometimes spoken of together, is Delany, one of those writers who take the language and try to crack it, to "make it new." In modernism, you could say that the classicists are represented by Proust, and the—not the romantics, but people trying to make it new, maybe the ultra-modernists—these are represented by Joyce, and the effort championed most by Pound. This kind of modernist writer tries to break the language down and make a new one that is closer to their own purposes.

I feel that Delany is clearly in the second camp, an obvious ultra-modernist. What he wanted to do, it seems to me, is to move language back closer to perception and primary cognition, to make the sentences on the page read a little bit closer to the way we think when we first see the world. Not to ever let conventions of literary practice get in the way of evoking perceptions with words. To that effect, he uses all of these gestures that we see over and over again, such as the frequent use of parentheses, for that instant revision we so often make, or that quick addition we make when a new perception causes a revised notion of what has happened. We also see punctuation used not in the classical manner, but rather to mark the way thought is making its progress, so that the dashes and semi-colons and colons are used like musical notation, perhaps—to mark the time of pauses, rather than indicate syntax in a formal or conventional way.

You also get single-sentence paragraphs, which represent that moment when a thought occurs that is so strong or startling that nothing follows immediately; it is its own full thought, therefore its own paragraph. This stops the reader as well, as with a sort of revelation. It breaks a grammatical rule or really a page-setting convention, but you see it often in Delany, maybe less so as the years pass.

Lastly, there is the liberal use of imagery of great aptness. The two halves of his metaphors really do fit; both tenor and vehicle get illuminated in new ways, by being linked together for the first time. This skillful imagery, which is a cognitive talent, spectacularly strong in Proust above all, is part of what makes Delany's prose so vivid. We very much think in metaphors, and new strong ones are a joy.

And then also Delany pays very close attention to the way things look. The words carefully express a vision, "to make you see" as Conrad once put it. To do that you need both the vision and then the words. So you read Delany's sentences with a sense of recognition, you say, "Ah yes, that is indeed what a street lamp in Central Park at midnight looks like, I too saw that transparent blue crystal surrounding the light like an optical illusion, but I never said it aloud to myself before this." These moments of pure vision are all over in Delany.

All this adds up to prose as a kind of poetry. That's one of the great modernist projects; many in that generation of fiction writers said, "We're going to treat the prose paragraph as a poem which has to have rhythm, imagery, and vision." It can't just be getting from A to B, or conveying information "as if through a clear window," which is clearly impossible when you recall we are talking about little black marks on an opaque surface. There is no clear window. It's language, it's thoughts in one's head, and in Delany we see that modernist project being applied to science fiction's subject matter. This is something that not only Delany but the whole New Wave was doing, in the years say 1965 to 1975. But Delany is one of the most successful examples of this project.

It's important to include content as well as form in this discussion, as all of Delany's formal devices are put to use to express certain powerful, hard-to-contain and hard-to-express emotional states. His stories are soulful, intense, often suffused with melancholy, but also wonder. Here he resembles his great precursor and inspiration Theodore Sturgeon. And like Sturgeon, and many others of course, Delany's stories are very often concerned with questions of identity and difference. This may come from his New York upbringing among all the various people of the city. We are all different yet we are still the same; many a Delany story tells us this, it presents us with some radically different Other, then reveals as we read on that this supposed Other is much like one's own internal feeling of self. This is one of his main lessons, and I'm tempted now to say that his lifelong persistent project is the de-othering of the Other. Through the years his others have gotten more and more otherly, but we still are made to see their essential identity or similarity to us.

So now we come to *Dhalgren*, the monster, the biggie, the litmus test, the masterpiece, the magnum opus, the what-have-you. The 900-page plotless monster. Actually it is in fact a masterpiece and a magnum opus, even though I was being facetious there. It's such a big book that I can't describe much of it in a overview lecture of this length. All the writing methods that I just described to you are now applied to the world we lived in in the early 1970s, and that's a very interesting project: the present as science fiction fantasy.

Everyone has their own *Dhalgren*, and this is literally true because of those parallel columns in the last chapter, which everyone chooses to read in different orders, so that no two readers have read the book in the same sequence. So what's important to you in *Dhalgren* may not be what's important to me, and I think it's such a massive book that that's probably true for everyone.

Certainly what seems to be important to Delany the critic in *Dhalgren* is not what's important to me in *Dhalgren*. Because this is about the point when we began to read criticism by Delany of his own work. You can see how it happened; he spent seven years writing one of the great American novels, and then the response in the year after it came out was either positive, with people saying things like "It was a radical book," "it blew my mind," "it was a really heavy experience"—it was either that or outraged negative responses, people saying "This is horrible, crazy, self-indulgent"—the kind of invective that has no content. You can understand Delany thinking, "Man, there's more to say about this book than that." And then thinking furthermore, "I guess I'll have to supply it myself." This is funny, but at least it's a positive response. A lot of writers in our family, when they began to feel neglected, or frustrated by their critical treatment, have responded by lashing out at the most popular colleague of the time, or punching another writer in the face at a convention, or both. You know it's true; this is a very fractious family that we are part of. So I think it's admirable that Delany, faced with this same frustration, said instead, "I'll write a substantive critique of *Dhalgren*, just to get things started."

But when I read Delany on *Dhalgren,* it's like having Hieronymus Bosch with you when you're looking at "The Garden of Earthly Delights," saying things like, "See if you look at it one way it's two faces facing each other, and if you look at it another way it's a vase! Isn't that amazing!" And you're looking at all the amazing figures on the canvas thinking, "Hieronymus please go away, I don't want to hear you. You're missing the point of your own work!"

Because for me what is important in *Dhalgren* is not these kinds of structural you-can-see-it-two-ways optical illusions, but rather aspects such as the dialogue in the book, the voices. The book must be almost fifty percent dialogue. These are American voices, and I simply have never seen another book that captures the American voice on the page better than it. You see its equal occasionally, in Mark Twain or the prose of William Carlos Williams, or in Gaddis's *JR*, which is obsessive in this regard, creating a tape recorder effect. But Delany has captured American voices on the page to a larger effect, drawing from his lifelong experience of listening and noting so many registers. You hear everything from the

stilted formalism of the visiting poet to all the dialects of the various low-lifes inhabiting Bellona. It's an achievement in itself, and worth treasuring for the sense it gives of direct contact with characters who are somehow unmediated by a narrator.

I was reading the latest issue of *Asimov's* on the plane yesterday. There was an awesome stiltedness in almost every line of dialogue in it. So when you have voices as real as those in *Dhalgren*, the characters themselves become real to you, and you believe them in as individual voices and people. They are people talking to you. There must be thirty characters in *Dhalgren* for whom you have a feeling for their inner life, their habits and behaviors; you can try to predict what they would say or how they would act. And here too Delany spans a big social spectrum, so that you end up understanding a lot of people that middle class American white guys like myself have had little contact with. It's also the case that everybody in the novel is intelligent. There are many characters who are odd or not quite all there, but there are only a few who strike one as being rather stupid. Tarzan and (unintelligible) almost exhaust that. In any case the people in the book seem alive, and reading it is like living; it's a real experience.

I also like very much those paragraphs that are in something like first person, one presumes from the Kid's point of view, scattered through the first six chapters. These paragraphs represent something like his stream of consciousness, perhaps, or are glimpses into the notebooks he keeps with him all the time. They are I think Delany's finest poetry. They express the thinking of a man whose mental state is sometimes disturbed, who is having trouble holding himself together. This conceit gave Delany the freedom to be a poet in his own medium of prose. I think it's Delany's finest writing.

I also want to mention the strange case of Mrs. Richards, in which the Kid goes up to do a little bit of work for a family that's trying to pretend that everything is still normal. The first time I read *Dhalgren,* that very long section bored me, and I could not believe any of those characters. I said to myself, "There's nobody in the book crazier than Mrs. Richards, and she's dull too."

But now when I read *Dhalgren* I feel this is one of the most interesting sections of all. Mrs. Richards is still deranged, but when you look around America today you see so many Mrs. Richardses, people pretending nothing has changed, living in a kind of ostrich's 1950. She represents a huge percentage of the American population. And my sympathy for her has also increased, because I see better what she's trying to do. If it's true that when things fall apart the center will not hold, she's down there in the center holding. She is saying, "you can rip me limb from limb, but

that's the only thing that's going to keep the center from holding." There's something admirable in that.

I also like the beauty of the symbolism in *Dhalgren*. All the odd sf features in the story have symbolic value, they are metaphors projected into the very world of the book. The giant sun comes up after Kid has discovered his triple relationship with Loni and Denny, and really a new world has risen for him, bright and full. The timing is not coincidental.

Then the transparent shell creatures that people walk around in: what else are those but our social selves that we try to project. Isn't it hilarious how transparent they are too; you see right through to the person underneath. That's a nice statement. Also the Orchid; how easily we can hurt each other. How we think to ourselves, "It's just the back of my verbal hand, I'll just slap him," but for the other person they are razor blades slicing them to pieces.

Then the mirror/prism/lens thing: what is that but an image of what *Dhalgren* is doing. It reflects the world, it separates the world into its parts to show us how it works and how beautiful it is, and then also it's using a magnifying glass so you can look at some things really closely. So the mirror/prism/lens motif is a name for and image of the book's method.

Then Bellona itself, this archetypal City. It's a microcosm of our world. We make our own rules, really. There is no alien power that forces us to obey the institutions we have. We remake them every day. On the other hand, we don't understand the universe. We live in a world that has a fog of uncertainties around its edges, beyond which we can't really penetrate. So, many of the realities of Bellona are embodied metaphors for the world that we live in now.

And then this epigraph that George Stanley said to Delany, apparently: "You have confused the true and the real." I can just imagine Delany hearing that and doing a James Joyce and racing off to the bathroom to write it down for later use, which is what Joyce used to do. Except Delany, always having notebook at hand, wouldn't actually have to run off to the bathroom. Anyway it's a good epigraph, because it describes so well what the book is doing, which is confusing the true and the real in ways that cause us to question both, as a paired dialectic, or some kind of interpenetration where we can never say which is which.

Now, after all this, I suspect some of you are thinking, "But damn it Stan, what about the plot? There is no plot! There has to be a plot! It's 900 pages of plotless book, and I can't stand it." And it's very true that the first time I read *Dhalgren* (and I think this is probably true for many people), in early 1975, I read the 900 pages in about two days, looking for the plot, reading along thinking, "What's going to happen, or *when* is

something going to happen at all? Surely there is some organizing pattern here. Where's the story?"

And that is an elusive thing in this book. I think that's where this talk of the vase that can be two faces comes into play, in that there are structural games that are taking the place of the plot, to an extent.

But more importantly, there is a plot. There are plots. It's just that they are not the standard plots that you've seen before. Here you might even see a little bit of a reaction within Delany against *Nova*; here, this time, they are new plots, new stories of his own. This story is about what happens to Kid in this town: that's the plot. He comes into this town and these things happen to him, 900 pages of strange and interesting events. You don't need a quest for the golden chalice, although he is trying to write and publish a book, and he would like to know what is going on. But you don't need the White Whale plot, or the Orpheus plot, or the Daphne plot, which appears but then gets abandoned immediately after the opening scene, and is a kind of signal of the book's fall into the unknown. After that, there are only these things that happen to the Kid when he's in this town.

When you accept that, and this acceptance often occurs when you read through the book for the second time, and are no longer hurrying to find something that's not there—when that occurs, and you're enjoying it sentence by sentence, incident by incident, you may find that the microplot of what happens to the Kid moment to moment is entirely sufficient in fulfilling your desire for plot. And you may begin to see that topics, or kinds of action, form strands that are like what we mean when we say plot. At the start of the book there are three dominant topics, basically sex, madness, and writing. They're all three very interesting, but as the book goes on, the madness element seems to go away, or at least to become subsumed into the actual writing itself in the last chapter. That's too bad in a way, but in effect, Kid changes. In the first half of the book, where Kid is really on the edge, sometimes he'll experience gaps, sometimes he won't remember things, he's really struggling with names and nouns, he sees miraculous things, and so on. It's a very absorbing strand of the narrative. But it goes away to a large extent, because when Kid sees the gigantic sun come up, he changes. He is the least freaked-out witness of this event, because he's used to things like this happening. And when he realizes that everyone else is also seeing this big sun in the sky, he gets really happy; he says in effect, "My God I'm not crazy this time, it's a communal event, everyone else is seeing it too; and isn't it great that it's the world that's crazy and not me." And so he goes into a kind of ecstasy. And after that he doesn't worry about it as much. Some good things happen, there are other problems that come up in his life to occupy him,

and the problem of madness goes away; which is good for him, but takes away a certain useful tension in the book.

I don't want to short the other two topics. The writing stuff is fascinating because you are inside a character deeply engaged in the specific problem of transcribing events into words. This is interesting because as we think we are always trying to transcribe experiences into words, even if we don't ever write them down. So you can easily sympathize with the writer as hero, because it's very much like the thinking self as hero.

As for the sex, I found it illuminating. It was mind boggling, it blew my mind, it was heavy. I learned things about the ways that people can relate to others that I didn't know before. This speaks mainly to my own ignorance, of course, but be that as it may, it taught me things. Isn't that what literature is for, after all? So I read certain passages wide-eyed, and I was one of the readers who when the book came out was saying "Oh my God that boggled my mind, it was so heavy." And in fact it literally is a heavy book, especially if you have the hardback edition. I don't know if any of you have seen the hardback of *Dhalgren*, there's only about three hundred of them. They're called the cubical *Dhalgrens*. I would have brought mine to show you but I didn't want to go over my weight limit on my baggage for the flight here. Apparently the story is that when Gregg Press was doing Delany's books in hardback editions, they sent *Empire Star* and *Dhalgren* to the printer at the same time with instructions to put *Empire Star* on thick stock so it wouldn't be so skinny, and *Dhalgren* on skinny stock so it wouldn't be so thick, and the printer reversed the instructions. So you have an *Empire Star* that you can pick locks with, and then you have a *Dhalgren* that is absolutely huge. You can use it as a shotput or a doorstop. It's a bug crusher. It's a wonderful edition, and you ought to snap up a copy if you ever see one for sale. I myself have Ron Drummond to thank for my copy, he sold it to me when he saw I wanted it more than him, he having more or less memorized the book to help Chip correct the thousands of typos in the first edition from Bantam.

So but wait, I was talking about sex there and yet somehow I got distracted. How could that happen?

Well, let's move on to the next book. After *Dhalgren*, about a year later, I presume working from the sheer energy of having written *Dhalgren*, Delany published *Triton*. I find that short span of time rather astonishing, because *Triton* is a long and complex novel, an important utopia. I get the sense of a writer running so hard that after finishing his magnum opus he can write one of the great utopias of our time just as a sort of winding down.

And it's also a great novel of character. Delany's solution to the utopian novel dilemma, of how to describe a utopian society and yet have an

interesting novel too, is to focus on the person who can't be happy. Even if society is good, with every opportunity to be happy, there are still going to be some personalities who somehow don't put it all together, and remain unhappy. That's interesting. So this is a character study in the same mode as Flaubert's *Madame Bovary*, which is also a portrait of someone living in adequate material conditions, and yet she's not able to be happy.

So Bron Helstrom, the hero of *Triton*, is science fiction's Madame Bovary, and a very good representative of the type. He is not a sympathetic character. It's not like he's a jerk (except he kind of is) but unlike most of the characters in *Dhalgren*, he doesn't seem to be all that bright. He's bright enough to keep a job, but he's not bright enough to figure out ways in which he's dysfunctional with other people, or change his behavior, or get his act together.

The statement of the book is thus that in utopia there will still be people who are unpleasant or screwed up in one way or another, and there will be people who are not that smart. Bron gets his chances, but he blows them time after time, and so there evolves a certain pathos to the situation, such that by the end of the book you can't help feeling sorry for the guy. It's a hurt to contemplate his problem, which is maybe not that different from a problem we all have. So the book's last scene, with its long last sentence, is one of the great final scenes. There are few if any other Delany novels that end on such a low point. It reminds me of the melancholy of *Driftglass*. The fact that it's a utopia, yet suffused with defeat, depression and melancholy, makes for a very interesting mix.

Triton also represents utopia as diversity, thus its new word *heterotopia*, an attempt to shift the ground rules of the utopian genre. It's not a single set of rules, but a kind of "everyone follow their own way" utopian concept—not anarchist but rather polyarchic. It's an important statement in the ongoing discussion that utopian fiction is. Each utopia follows the next generation's utopias and critiques the previous ones, saying, "No it wouldn't be that way, it would be *this* way." It's an ongoing argument back to More, and even Plato. So everyone who writes a utopia that is interesting enough becomes part of an ongoing conversation that is now at least five hundred years old. I think *Triton* is going to join that little band of books, and its contribution will be to point out the identity in difference, and the potential in that for solidarity.

After that, we come to Delany's *Neveryona* sequence, the "S&S" novels, which stands of course not for sword and sorcery but rather sex and semiotics. There is no sorcery in these novels as far as I can tell, although maybe there is. When you discuss the supposed first civilization in history, you hope to be able to discuss the bare bones of things. But in Delany the bare bones are still incredibly complex. These novels are basically about

New York City. That's fine, because by discussing New York as if it were a sword and sorcery "first civilization," you can look at New York in ways that reveal things that you couldn't see if you just talked about New York in ordinary realist terms. Science, power, economics, class, law, sex, they're all portrayed in a most interesting way in these stories and the novel in the middle of them.

The science, for instance; there's a moment in *Neveryona* that describes the discovery of pi. I marvel at the greatness of that scene, and it has had an impact on my own work, because science fiction should be imagining moments like that much more often than it does.

And then power, the revealed master-slave relationships that are so hidden now, the class system involved; these stories keep coming back to that.

And also sex, and the intense exposure to the gay experience that these stories contain. And these stories engage with the AIDS crisis in a way few other works of fiction had, at that point or since.

And then we come to *Stars in My Pocket Like Grains of Sand*, but oh dear I see that I have run out of time, what a shame. Actually I suppose it is a shame, because it would be fun to express my incomprehension of most of this book. And also there's a part I do comprehend at the beginning, being as it is a rewrite of Bester's *The Stars My Destination.* You'll have to excuse me, but I'm in the camp that believes the Bester novel could use a rewrite. Delany gives us that. And he also gives us, later in the book, a summarization of the society by way of quick descriptions of the contents of a dozen books found on a bookshelf. This is a Stanislaw Lem-like game, sparking with witty ingenuity; it's a tour de force. More importantly, perhaps, the book also contains a complex depiction of a world where sex and gender are all shifted from current norms, blurring those categories in ways we can hardly imagine now.

However, despite these points of interest, I still must register my basic incomprehension, and report a time when I was talking about the book with a friend in England, who complained that Delany now seemed caught up in the impossible project of trying to write down his own subtext. This, perhaps, had led to one particular page-long sentence in the book that my friend couldn't understand, opening the book to ask for my help with it. Confidently I undertook to explain it, being a Delanyite and unrepentant English major, and we sat down and read the sentence over and over. To my dismay I found I couldn't understand it either, and in the end I proposed to my friend the theory that there must have been a typo made in the setting of the text, an extremely unfortunate typo as it turned out, in that it appeared the sentence's verb had been omitted. But we couldn't be sure.

Anyway enough of my very inadequate reading of this book, as I want to try a conclusion before I run too far over my allotted time. Delany is one of science fiction's greats, he's in the all-time pantheon of science fiction, no question. What does that mean in the larger world? I have no idea. But I think what it means is that he's one of the most important writers in twentieth century American literature. I am confident history will justify that statement. What this also means is that while Delany has been actively working, it's been the science fiction community that has nurtured him and understood him, or not—that has loved or hated him, depending—but in any case has been his home town, his fan base, and most importantly, his readership. So when the time comes that he is generally regarded as one of the great American writers, and taught in classes, and more importantly read for fun by people reading what they want, we can say that we were the ones to appreciate him in the first place, and by doing so gave him a platform and audience, and the encouragement to go further than he would have otherwise. That will reflect well on us as an artistic and intellectual community.

Thank you.

Vinland the Dream

When I was young, I loved the Vinland stories so much that I got my parents to drive us through Kensington, Minnesota, on our way to Zion in the mid-1960s. A replica of the Kensington Stone was displayed in the town square, standing about fifteen feet tall, like a slab from Stonehenge. The original is just over a foot long. Clearly there were other people who loved the story too.

My novel *Icehenge* is another result of this obsession.

Abstract. It was sunset at L'Anse aux Meadows. The water of the bay was still, the boggy beach was dark in the shadows. Flat arms of land pointed to flat islands offshore; beyond these a taller island stood like a loaf of stone in the sea, catching the last of the day's light. A stream gurgled gently as it cut through the beach bog. Above the bog, on a narrow grassy terrace, one could just make out a pattern of low mounds, all that remained of sod walls. Next to them were three or four sod buildings, and beyond the buildings, a number of tents.

A group of people—archaeologists, graduate students, volunteer laborers, visitors—moved together onto a rocky ridge overlooking the site. Some of them worked at starting a campfire in a ring of blackened stones; others began to unpack bags of food, and cases of beer. Far across the water lay the dark bulk of Labrador. Kindling caught and their fire burned, a spark of yellow in the dusk's gloom.

Hot dogs and beer, around a campfire by the sea; and yet it was strangely quiet. Voices were subdued. The people on the hill glanced down often at the site, where the head of their dig, a lanky man in his early fifties, was giving a brief tour to their distinguished guest. The distinguished guest did not appear pleased.

Introduction. The head of the dig, an archeology professor from McGill University, was looking at the distinguished guest with the expression

he wore when confronted by an aggressive undergraduate. The distinguished guest, Canada's Minister of Culture, was asking question after question. As she did, the professor took her to look for herself, at the forge, and the slag pit, and the little midden beside Building E. New trenches were cut across the mounds and depressions, perfect rectangular cuts in the black peat; they could tell the minister nothing of what they had revealed. But she had insisted on seeing them, and now she was asking questions that got right to the point, although they could have been asked and answered just as well in Ottawa. Yes, the professor explained, the fuel for the forge was wood charcoal, the temperature had gotten to around twelve hundred degrees Celsius, the process was direct reduction of bog ore, obtaining about one kilogram of iron for every five kilograms of slag. All was as it was in other Norse forges—except that the limonites in the bog ore had now been precisely identified by spectroscopic analysis; and that analysis had revealed that the bog iron smelted here had come from northern Quebec, near Chicoutimi. The Norse explorers, who had supposedly smelted the bog ore, could not have obtained it.

There was a similar situation in the midden; rust migrated in peat at a known rate, and so it could be determined that the many iron rivets in the midden had only been there a hundred and forty years, plus or minus fifty.

"So," the minister said, in English with a Francophone lilt. "You have proved your case, it appears?"

The professor nodded wordlessly. The minister watched him, and he couldn't help feeling that despite the nature of the news he was giving her, she was somewhat amused. By him? By his scientific terminology? By his obvious (and growing) depression? He couldn't tell.

The minister raised her eyebrows. "L'Anse aux Meadows, a hoax. Parcs Canada will not like it at all."

"No one will like it," the professor croaked.

"No," the minister said, looking at him. "I suppose not. Particularly as this is part of a larger pattern, yes?"

The professor did not reply.

"The entire concept of Vinland," she said. "A hoax!" The professor nodded glumly.

"I would not have believed it possible."

"No," the professor said. "But—" He waved a hand at the low mounds around them—"So it appears." He shrugged. "The story has always rested on a very small body of evidence. Three sagas, this site, a few references in Scandinavian records, a few coins, a few cairns…" He shook his head. "Not much." He picked up a chunk of dried peat from the ground, crumbled it in his fingers.

Suddenly the minister laughed at him, then put her hand to his upper arm. Her fingers were warm. "You must remember it is not your fault."

He smiled wanly. "I suppose not." He liked the look on her face; sympathetic as well as amused. She was about his age, perhaps a bit older. An attractive and sophisticated Quebecois. "I need a drink," he confessed.

"There's beer on the hill."

"Something stronger. I have a bottle of cognac I haven't opened yet..."

"Let's get it and take it up there with us."

Experimental Methods. The graduate students and volunteer laborers were gathered around the fire, and the smell of roasting hot dogs filled the air. It was nearly eleven, the sun a half-hour gone, and the last light of the summer dusk slowly leaked from the sky. The fire burned like a beacon. Beer had been flowing freely, and the party was beginning to get a little more boisterous.

The minister and the professor stood near the fire, drinking cognac out of plastic cups.

"How did you come to suspect the story of Vinland?" the minister asked as they watched the students cook hot dogs.

A couple of the volunteer laborers, who had paid good money to spend their summer digging trenches in a bog, heard the question and moved closer.

The professor shrugged. "I can't quite remember." He tried to laugh. "Here I am an archaeologist, and I can't remember my own past."

The minister nodded as if that made sense. "I suppose it was a long time ago?"

"Yes." He concentrated. "Now what was it. Someone was following up the story of the Vinland map, to try and figure out who had done it. The map showed up in a bookstore in New Haven in the 1950s—as you may know?"

"No," the minister said. "I hardly know a thing about Vinland, I assure you. Just the basics that anyone in my position would have to know."

"Well, there was a map found in the 1950s called the Vinland map, and it was shown to be a hoax soon after its discovery. But when this investigator traced the map's history, she found that the book it had been in was accounted for all the way back to the 1820s, map and all. It meant the hoaxer had lived longer ago than I had expected." He refilled his cup of cognac, then the minister's. "There were a lot of Viking hoaxes in the nineteenth century, but this one was so early. It surprised me. It's generally thought that the whole phenomenon was stimulated by a book that a Danish scholar published in 1837, containing translations of the Vinland sagas and related material. The book was very popular among the Scandinavian

settlers in America, and after that, you know...a kind of twisted patriotism, or the response of an ethnic group that had been made fun of too often... So we got the Kensington stone, the halberds, the mooring holes, the coins. But if a hoax predated *Antiquitates Americanae*...it made me wonder."

"If the book itself were somehow involved?"

"Exactly," the professor said, regarding the minister with pleasure. "I wondered if the book might not incorporate, or have been inspired by, hoaxed material. Then one day I was reading a description of the field work here, and it occurred to me that this site was a bit too pristine. As if it had been built but never lived in. Best estimates for its occupation were as low as one summer, because they couldn't find any trash middens to speak of, or graves."

"It could have been occupied very briefly," the minister pointed out.

"Yes, I know. That's what I thought at the time. But then I heard from a colleague in Bergen that the *Gronlendinga Saga* was apparently a forgery, at least in the parts referring to the discovery of Vinland. Pages had been inserted that dated back to the 1820s. And after that, I had a doubt that wouldn't go away."

"But there are more Vinland stories than that one, yes?"

"Yes. There are three main sources. The *Gronlendinga Saga*, *The Saga of Erik the Red*, and the part of *The Hauksbók* that tells about Thorfinn Karlsefni's expedition. But with one of those questioned, I began to doubt them all. And the story itself. Everything having to do with the idea of Vinland."

"Is that when you went to Bergen?" a graduate student asked.

The professor nodded. He drained his plastic cup, felt the alcohol rushing through him. "I joined Nielsen there and we went over *Erik the Red* and *The Hauksbók*, and damned if the pages in those concerning Vinland weren't forgeries too. The ink gave it away—not its composition, which was about right, but merely how long it had been on that paper. Which was thirteenth century paper, I might add! The forger had done a super job. But the sagas had been tampered with sometime in the early nineteenth century."

"But those are masterpieces of world literature," a volunteer laborer exclaimed, round-eyed; the ads for volunteer labor had not included a description of the primary investigator's hypothesis.

"I know," the professor said irritably, and shrugged.

He saw a chunk of peat on the ground, picked it up and threw it on the blaze. After a bit it flared up.

"It's like watching dirt burn," he said absently, staring into the flames.

Discussion. The burnt garbage smell of peat wafted downwind, and offshore the calm water of the bay was riffled by the same gentle breeze. The

minister warmed her hands at the blaze for a moment, then gestured at the bay. "It's hard to believe they were never here at all."

"I know," the professor said. "It looks like a Viking site, I'll give him that."

"Him," the minister repeated.

"I know, I know. This whole thing forces you to imagine a man in the eighteen twenties and thirties, traveling all over—Norway, Iceland, Canada, New England, Rome, Stockholm, Denmark, Greenland... Criss-crossing the North Atlantic, to bury all these signs." He shook his head. "It's incredible."

He retrieved the cognac bottle and refilled. He was, he had to admit, beginning to feel drunk. "And so many parts of the hoax were well hidden! You can't assume we've found them all. This place had two butternuts buried in the midden, and butternuts only grow down below the St. Lawrence, so who's to say they aren't clues, indicating another site down there? That's where grapevines actually grow, which would justify the name Vinland. I tell you, the more I know about this hoaxer, the more certain I am that other sites exist. The tower in Newport, Rhode Island, for instance—the hoaxer didn't build that, because it's been around since the seventeenth century—but a little work out there at night, in the early nineteenth century... I bet if it were excavated completely, you'd find a few Norse artifacts."

"Buried in all the right places," the minister said.

"Exactly." The professor nodded. "And up the coast of Labrador, at Cape Porcupine where the sagas say they repaired a ship. There too. Stuff scattered everywhere, left to be discovered or not."

The minister waved her plastic cup. "But surely this site must have been his masterpiece. He couldn't have done too many as extensive as this."

"I shouldn't think so." The professor drank deeply, smacked his numbed lips. "Maybe one more like this, down in New Brunswick. That's my guess. But this was surely one of his biggest projects."

"It was a time for that kind of thing," the volunteer laborer offered. "Atlantis, Mu, Lemuria..."

The minister nodded. "It fulfills a certain desire."

"Theosophy, most of that," the professor muttered. "This was different."

The volunteer wandered off. The professor and the minister looked into the fire for a while.

"You are *sure*?" the minister asked.

The professor nodded. "Trace elements show the ore came from upper Quebec. Chemical changes in the peat weren't right. And nuclear resonance dating methods show that the bronze pin they found hadn't been buried long enough. Little things like that. Nothing obvious. He was

amazingly meticulous, he really thought it out. But the nature of things tripped him up. Nothing more than that."

"But the effort!" the minister said. "This is what I find hard to believe. Surely it must have been more than one man! Burying these objects, building the walls—surely he would have been noticed!"

The professor stopped another swallow, nodded at her as he choked once or twice. A broad wave of the hand, a gasping recovery of breath:

"Fishing village, kilometer north of here. Boarding house in the early nineteenth century. A crew of ten rented rooms in the summer of 1842. Bills paid by a Mr. Carlsson."

The minister raised her eyebrows. "Ah."

One of the graduate students got out a guitar and began to play. The other students and the volunteers gathered around her.

"So," the minister said, "Mr. Carlsson. Does he show up elsewhere?"

"There was a Professor Ohman in Bergen. A Dr. Bergen in Reykjavik. In the right years, studying the sagas. I presume they were all him, but I don't know for sure."

"What do you know about him?"

"Nothing. No one paid much attention to him. I've got him on a couple transatlantic crossings, I think, but he used aliases, so I've probably missed most of them. A Scandinavian-American, apparently Norwegian by birth. Someone with some money—someone with patriotic feelings of some kind—someone with a grudge against a university—who knows? All I have are a few signatures, of aliases at that. A flowery handwriting. Nothing more. That's the most remarkable thing about him! You see, most hoaxers leave clues to their identities, because a part of them wants to be caught. So their cleverness can be admired, or the ones who fell for it embarrassed, or whatever. But this guy didn't want to be discovered. And in those days, if you wanted to stay off the record…" He shook his head.

"A man of mystery."

"Yeah. But I don't know how to find out anything more about him."

The professor's face was glum in the firelight as he reflected on this. He polished off another cup of cognac. The minister watched him drink, then said kindly, "There is nothing to be done about it, really. That is the nature of the past."

"I know."

Conclusions. They threw the last big logs on the fire, and flames roared up, yellow licks breaking free among the stars. The professor felt numb all over, his heart was cold, the firelit faces were smeary primitive masks, dancing in the light. The songs were harsh and raucous, he couldn't understand the words. The wind was chilling, and the hot skin of his arms

and neck goose-pimpled uncomfortably. He felt sick with alcohol, and knew it would be a while before his body could overmaster it.

The minister led him away from the fire, then up the rocky ridge. Getting him away from the students and laborers, no doubt, so he wouldn't embarrass himself. Starlight illuminated the heather and broken granite under their feet. He stumbled. He tried to explain to her what it meant, to be an archaeologist whose most important work was the discovery that a bit of their past was a falsehood.

"It's like a mosaic," he said, drunkenly trying to follow the fugitive thought. "A puzzle with most of the pieces gone. A tapestry. And if you pull a thread out...it's ruined. So little lasts! We need every bit we can find!"

She seemed to understand. In her student days, she told him, she had waitressed at a cafe in Montreal. Years later she had gone down the street to have a look, just for nostalgia's sake. The café was gone. The street was completely different. And she couldn't remember the names of any of the people she had worked with. "This was my own past, not all that many years ago!"

The professor nodded. Cognac was rushing through his veins, and as he looked at the minister, so beautiful in the starlight, she seemed to him a kind of muse, a spirit sent to comfort him, or frighten him, he couldn't tell which. Clio, he thought. The muse of history. Someone he could talk to.

She laughed softly. "Sometimes it seems our lives are much longer than we usually think. So that we live through incarnations, and looking back later we have nothing but..." She waved a hand.

"Bronze pins," the professor said. "Iron rivets."

"Yes." She looked at him. Her eyes were bright in the starlight. "We need an archeology for our own lives."

Acknowledgments. Later he walked her back to the fire, now reduced to banked red coals. She put her hand to his upper arm as they walked, steadying herself, and he felt in the touch some kind of portent; but couldn't understand it. He had drunk so much! Why be so upset about it, why? It was his job to find the truth; having found it, he should be happy! Why had no one told him what he would feel?

The minister said good-night. She was off to bed; she suggested he do likewise. Her look was compassionate, her voice firm.

When she was gone he hunted down the bottle of cognac, and drank the rest of it. The fire was dying, the students and workers scattered—in the tents, or out in the night, in couples.

He walked by himself back down to the site.

Low mounds, of walls that had never been. Beyond the actual site were rounded buildings, models built by the park service, to show tourists what the "real" buildings had looked like. When Vikings had camped on

the edge of the new world. Repairing their boats. Finding food. Fighting among themselves, mad with epic jealousies. Fighting the dangerous Indians. Getting killed, and then driven away from this land, so much lusher than Greenland.

A creak in the brush and he jumped, startled. It would have been like that: death in the night, creeping up on you—he turned with a jerk, and every starlit shadow bounced with hidden skraelings, their bows drawn taut, their arrows aimed at his heart. He quivered, hunched over.

But no. It hadn't been like that. Not at all. Instead, a man with spectacles and a bag full of old junk, directing some unemployed sailors as they dug. Nondescript, taciturn, nameless; one night he would have wandered back there into the forest, perhaps fallen or had a heart attack—become a skeleton wearing leathers and sword-belt, with spectacles over the skull's eye sockets, the anachronism that gave him away at last... The professor staggered over the low mounds toward the trees, intent on finding that inadvertent grave...

But no. It wouldn't be there. The taciturn figure hadn't been like that. He would have been far away when he died, nothing to show what he had spent years of his life doing. A man in a hospital for the poor, the bronze pin in his pocket overlooked by the doctor, stolen by an undertaker's assistant. An anonymous figure, to the grave and beyond. The creator of Vinland. Never to be found.

The professor looked around, confused and sick. There was a waist-high rock, a glacial erratic. He sat on it. Put his head on his hands. Really quite unprofessional. All those books he had read as a child. What would the minister think! Grant money. No reason to feel so bad!

At that latitude midsummer nights are short, and the party had lasted late. The sky to the east was already gray. He could see down onto the site, and its long sod roofs. On the beach, a trio of long narrow high-ended ships. Small figures in furs emerged from the longhouses and went down to the water, and he walked among them and heard their speech, a sort of dialect of Norwegian that he could mostly understand. They would leave that day, it was time to load the ships. They were going to take everything with them, they didn't plan to return. Too many skraelings in the forest, too many quick arrow deaths. He walked among them, helping them load stores. Then a little man in a black coat scurried behind the forge, and he roared and took off after him, scooping up a rock on the way, ready to deal out a skraeling death to that black intruder.

The minister woke him with a touch of her hand. He almost fell off the rock. He shook his head; he was still drunk. The hangover wouldn't begin for a couple more hours, though the sun was already up.

"I should have known all along," he said to her angrily. "They were stretched to the limit in Greenland, and the climate was worsening. It was amazing they got that far. Vinland"—he waved a hand at the site—"was just some dreamer's story."

Regarding him calmly, the minister said, "I am not sure it matters."

He looked up at her. "What do you mean?"

"History is made of stories people tell. And fictions, dreams, hoaxes—they also are made of stories people tell. True or false, it's the stories that matter to us. Certain qualities in the stories themselves make them true or false."

He shook his head. "Some things really happened in the past. And some things didn't."

"But how can you know for sure which is which? You can't go back and see for yourself. Maybe Vinland was the invention of this mysterious stranger of yours; maybe the Vikings came here after all, and landed somewhere else. Either way it can never be anything more than a story to us."

"But..." He swallowed. "Surely it matters whether it's a true story or not!"

She paced before him. "A friend of mine once told me something he had read in a book," she said. "It was by a man who sailed the Red Sea, long ago. He told of a servant boy on one of the dhows, who could not remember ever having been cared for. The boy had become a sailor at age three—before that, he had been a beachcomber." She stopped pacing and looked at the beach below them. "Often I imagined that little boy's life. Surviving alone on a beach, at that age—it astonished me. It made me...happy."

She turned to look at him. "But later I told this story to an expert in child development, and he just shook his head. 'It probably wasn't true,' he said. Not a lie, exactly, but a..."

"A stretcher," the professor suggested.

"A stretcher, exactly. He supposed that the boy had been somewhat older, or had had some help. You know."

The professor nodded.

"But in the end," the minister said, "I found this judgment did not matter to me. In my mind I still saw that toddler, searching the tide pools for his daily food. And so for me the story lives. And that is all that matters. We judge all the stories from history like that—we value them according to how much they spur our imaginations."

The professor stared at her. He rubbed his jaw, looked around. Things had the sharp-edged clarity they sometimes get after a sleepless night, as if glowing with internal light. He said, "Someone with opinions like yours probably shouldn't have the job that you do."

"I didn't know I had them," the minister said. "I only just came upon them in the last couple hours, thinking about it."

The professor was surprised. "You didn't sleep?"

She shook her head. "Who could sleep on a night like this?"

"My feeling exactly!" He almost smiled. "So. A *nuit blanche*, you call it?"

"Yes," she said. "A *nuit blanche* for two." And she looked down at him with that amused glance of hers, as if...as if she understood him.

She extended her arms toward him, grasped his hands, helped pull him to his feet. They began to walk back toward the tents, across the site of L'Anse aux Meadows. The grass was wet with dew, and very green.

"I still think," he said as they walked together, "that we want more than stories from the past. We want something not easily found—something, in fact, that the past doesn't have. Something secret, some secret meaning...something that will give our lives a kind of sense."

She slipped a hand under his arm. "We want the Atlantis of childhood. But, failing that..." She laughed and kicked at a clump of grass; a spray of dew flashed ahead of them, containing, for just one moment, a bright little rainbow.

Six Poems from *If Wang Wei Lived on Mars*

I wrote these poems between 1980 and 1999, and they first appeared in my collection *The Martians*.

Crossing Mather Pass

At the turning point of my life
I hiked toward Mather Pass.
With every step clouds thickened above
Until the world was roofed in gray.

Thunder rolled from west to east
Like big barrels over a floor
And as I crossed great Upper Basin
It began to snow.

Soon I walked in a white bubble
Slush piled on every rock.
Warm and dry in parka and pants
I felt my life fall away.

I gave it up. Fly away
On the wind, drift into slush,
I'll never go back! I quit!
Each step up was a step away.

A convex shattered slope of stone
Rose into mist. A boulder wall.
The pass on top, unseen. The trail
Swept up without a switchback,

Right to left in a single shot,
The Muir Trail crew's one touch of art.
It cost a life: I passed a plaque
And read the name: my own.

Then I was in the pass.
Flakes blew up one side and
Down the other. In the lee I tried
To eat but started shivering. Go.

With easy strides I clumped down
The white Ss on the northern slope
Until I saw the Palisade Lakes,
Far far below. The sun came out:

White lace on wet gold granite.
A new world, a new life,
A new world I'll make it new!
I passed two hikers setting camp:

Did you come over in that storm?
Yes, I said, I left my life on the other side
And now I'm not afraid.

Invisible Owls

I remember our night on the ridge
I had seen a nook some years before
Flat sand and shrubs in broken granite
Right on the crest so I thought I could find it
And you were game for anything

We hiked up in late afternoon
Carrying water in our packs
Up in the shadow of the Crystal Range
Up shattered granite all patched with grasses
Until we stepped back into the light

We found the nook and pitched the tent
Between two gnarly junipers
The sun set in the big valley's haze
The light leaked out of the sky
We leaned against rock cooking our supper

And in the last electric blue
The richest color in all the world
We jerked at a flash in the air above
And jerked again as out of the night
Black shapes dove at both our heads

In the dark we could barely see them
Quick dives made no sound at all
Too big for bats too quiet for hawks
We ducked it seemed at an onslaught of owls
Out hunting in a little pack

A strange disjunction of the senses
Wings baffled by down to damp their noise
So we heard nothing except the stove
Yet saw the steep black strobe approaches
The braking the sharp glides turning away

Then one came close we sensed the talons
I picked up the stove and held it aloft
A Bluet cannister with blue flames burning
Bright in the dark blue expanse of space
Beyond it black wings flitting away

We laughed with just a touch of a shiver
Actually to be considered as food
Above the stars popped out all over
Netted in the Milky Way
And afterimages of blue flame

Then we lay in our blue tent
The moon rose and our air turned blue
A blue still in us
It will always be with us
All the color of the twilight sky

All the time and space we travel
The years pass so many now
Falling asleep owls twirl overhead
I feel the granite under our bed
We soar in the blue without a sound

Tenzing

Tenzing did not speak much English
Hungry food tired rest
Paragraphs from a power in the land

Teahouse to teahouse he led us
Across land scored deep
Rivers in mountains no end to them

He arranged our food
He arranged our sleep
He showed us the way

Up the gorge of the Dudh Khosi
Green leaves leeches everything wet
Always within the monsoon clouds

One evening they cleared and there
Above the peaks above the clouds
Another range above the world

We walked up there
Namche Bazaar perched in space
Thyangboche Pengboche Pheriche

Up glacier canyons up their walls
Over ice and rock to Gorak Shep
Dead Crow the last teahouse

Dawn struggle up Kala Pattar
Sit on the peak necks craned up
To look at Everest

Massive slab bright in the sky
Sargarmatha Chomolungma
Mother Goddess of the World

Tenzing pointed at South Col
Fabled last camp littered with gear
Terrible stories corpses

Tenzing had been there four times
Portering up and down Khumbu Icefall
The sidewalk over the white abyss

Where any moment the world could crash
And end it all a place in other words
Like any other place we stand

Beside Tenzing we do not yet know
The world and the icefall are the same
We see it in his face's Himalaya

Gleaming like ice in the sun
Windy he said South Col very windy
He was fifty-four

Later that morning Lisa got sick
He led her down by the hand
Offering tea sips of water

And brought us down to Pheriche
Helped run the teahouse while Lisa recovered
Helped the Sherpani who cooked all day

Led us to the ancient monastery
Showed us the wall of demon masks
Took us to Thyangboche in the rain

Made sure we saw the monks' mandala
Five men in red sitting and laughing
Over a circle of colored sands

Rubbing funnels with sticks
To free trickles of red green yellow blue
Intent then a joke and we three

Sitting with them through a dark rainy day
We sit there still in some inner space
He led us back down into the world

Down to Namche down down to Lukla
The little airstrip hacked into the wall
Of the gorge an outpost of everything

Led us into the Sherpa Co-op at dusk
Everyone in there watching TV
Powered by the Honda generator out back

A video of the Live Aid concert
Everyone stunned at the sight
Of Ozzy Osborne chewing up the stage

Tenzing the man who led us
Who took care of us who taught us
Finished eating and crossed the room

Crouched beside me gestured at the TV
America? he said
No I said no that's England

The Red's Lament

They never got it right
not any of them not ever
never on Earth by definition
nor hardly ever on Mars itself
the way it was back in the beginning
the way it was before we changed it

The way the sky went red at dawn
the way it felt to wake under the sun
light in the self rock under boot
.38*g* even in our dreams
and in our hopes for our children

The way the way always came clear
even in the worst of the gimcrack chaos
Ariadne's thread appearing or not
in the peripheral moment lost
lost then found and walking on
a sidewalk through the shattered land

The way so much of it had to be
inferred through the suits we walked in
cut off from the touch of the world
we watched like pilgrims
in love from afar alight
with fire in the body itself felt
as a world the mind apulse in a living
wire of thought tungsten in

darkness the person as planet
the surface of Mars the inside
of our souls aware each
to each and all to all

The way we knew the way had changed
and never again would remain the same
long enough for us to understand it

The way the place was just there
the way you were just thinking stone there

The way everything we thought we knew
in the sky fell away and left us
standing in the visible world
patterned by wind to a horizon
you could almost touch a little
prince on a little world looking for

The way the stars shone at noon
on the flanks of the big volcanoes
poking through the sky itself
out into space we walked in space
and on the sand at once and knew
we knew we were not at home the way

We always knew we were not
at home we are visitors on this planet
the Dalai Lama said on Earth
we are here a century or two at most
and during that time we must try
to do something good something useful

The way the Buddha did with our lives
the way on Mars we always knew this
always saw it in the bare face
of the land under us the spur
and gully shapes of our lives
all bare of ornamentation
red rock red dust the bare
mineral here of now
and we the animals standing in it

A Report on the First Recorded Case of Areophagy

for Terry Bisson

On my forty-third birthday I was nearly done with Mars.
The drafts were in a shambles.
Beauty in a novel (as in everything) is an emergent property
Emerging late in the process
And before that all is chaos and disorder.
But my hopes were high.
I felt that it was coming together.
I wanted the final push to be the convergence
Of everything.
I wanted unreasonable things.
I had in my possession some bits of Mars
A gram or two of the SNC meteorite that fell on Zagama Nigeria
In October of 1962 after thirteen million years in space
Little gray chunks of rock mounted in a necklace given to my wife.
I unscrewed the casing took out a chunk
Climbed onto my roof at sunset.
A clear day
Crows flying back from the fields
The coastal range dark to the west
Gilt clouds above it
The vault still blue
The wind fresh from the delta
And there I was on the roofbeam of my house

In the middle of my life
In the open air
About to eat a rock
That if not fraudulent
A piece of Jersey
Was an actual chunk of the next planet out.
It felt odd even in the performance
I have never been able to explain myself
But can only note that in the attempt to imagine Mars
I came to see Earth more clearly than ever before
This beautiful world now alive
With the drama of an everyday sunset.
Black birds sailing east in lines
Under my feet my home
The sun touching the coastal range.
I put the rock in my mouth
All went on as before.
No electric shiver that the sunset itself did not provide
No speaking in tongues.
I bit down
It was too hard to break.
Tongued it side to side
Tasted no taste.
Ran it over my teeth
A little rock.
Most of it would pass through me
But the stomach's fierce acids
Would surely tear at its surface
And some few atoms I hoped would stick
As carbon incorporated into my bones
For their seven-year cycle
And so I swallowed.
I sat digesting Mars and the view
The sun ablink through the Berryessa gap.
Each life has its trajectory
Up and down in the shimmer of ordinary moments

Sudden euphoria stab of grief
The pattern dustdevil funneling down spiraling up
In most exquisite sensitive dependence
On unknown factors.
That dusk nothing of the sort happened.
It was a matter of will
A meditative discipline exerted day after day
For years
To make a world transparent in me
And my mind at home
And as I ate parts of another world
This one wheeled about me like a veritable
California

Two Years

We were brothers in those days you and I
Mom off to work ten hours a day
No child care no friends no family

So off we went on our merry way
To a nearby park walled by city streets
Where Jamaican nannies watched us play

One eye on their charges all stunned by the heat
Kids here and there mom following daughter
Me following you so cautious and neat

Hands gripped as you rose on the teeter-totter
Intent as you stepped on the bouncy bridge
Then tossed your head back burbling laughter

When you reached solid ground and stood on the edge
Looking back at the span you had crossed without falling
Plop on the grass to eat our first lunch

You tease as we eat your laughter upwelling
Pretend to refuse your apple juice
Knock it aside and laugh at its spilling

And laugh again at the flight of a bluejay
Off to used bookstores' dim musty aisles
Retrieving the books you have pulled out and used

To toss on the ground and collect people's smiles
Until I stop you and you throw a fit
And so into the backpack off hiking for miles

Your forehead snug on the back of my neck
Home then to microwave Mom's frozen milk
So that when you wake ravenous for it

I'll have tested the temperature with a lick
And can lay you out in my elbow's nook
And watch you suck to the last squick squick

And then you nap again I write my book
And for an hour I am on Mars
Or sitting at my desk lost in thought as I look

Down at the perpetual parade of cars
Your cry wakes us both from this dream
And we're back at it the movement of the stars

No more regular than our routine
Untellable tedium not just the diapers
The spooning of food the screams

But also the weekly pass of the street sweeper
The hours together playing with blocks
I set them up you knock them down nothing neater

And all the time you learning to talk
Glossolalia peppered with names
Simple statements firm orders Let go walk

Telling me to do things a game
That made you laugh also knowing
When things were in different ways the same

Blue truck blue sky your face glowing
With delight as your language grew
Till description became a kind of telling

Power I spit out the sun I sky the blue
Sitting in that living room together
Each in his own world surprised by new

Things spaced out lost to each other
Used to each other like Siamese twins
Confined to the house by steamy weather

Me watching volleyball on ESPN
Listening to Beethoven reading the Post
You moving your trucks around babbling when

You felt like it absorbed focused lost
In your own space so fully that watching you
I forgot my many selves collapsed to one and was most

Happy the past is gone David I asked beloved of
God do you remember Bethesda
The way my mother would have

Asked me Do you remember Zion
And David looked at me curiously and said No
Dad not really I know how the house looked but all

That comes from pictures in Mom's albums you know
Yes my first memory is not of Zion but
California the Christmas I was three a brown

Trike put together by my dad next to the tree but
My dad tells me he bought the trike assembled
How can we say what did or did not

Happen David watching you I tremble
You know the world are sophisticated
You say you do not remember

That time and now you know so much of hate
Of anguish of death
Will you ever again be so elated

By the sight of swans swimming under the wharf
Shrieking with laughter as they dove for tossed bread
I hope we are these moments deeper than self

Deeper than memory always connected
Inside each other hoping
This helps hope stave off dread

Brother of mine boy receding
I will try to remember for us
The time when you could be so purely happy

Discovering Life

My editor and friend Jane Johnson requested one more Mars story from me, to help her celebrate the fifth birthday of her imprint Harper Voyager. I was done with Mars (see the poem "I Say Goodbye to Mars" in *The Martians*), but for her I was happy to try. The story was later inserted into the paperback edition of *The Martians*.

The final approach to the Jet Propulsion Laboratory, a narrow road running up the flank of the ugly brown mountains overlooking Los Angeles, is a fine road in ordinary circumstances, but when something newsworthy occurs it is inadequate to handle the influx of media visitors. On this morning the line of cars and trailers extended down from the security gate almost to the freeway offramp, and Bill Dawkins watched the temperature gauge of his old Ford Escort rise as he inched forward, all the vehicles adding to the smog that already made the air a tangible gray mist. Eventually he passed the security guards and drove up to the employee parking lot, then walked down past the guest parking lot, overflowing with TV trailers topped by satellite dishes. Surely every language and nation in the world was represented, all bringing their own equipment of course.

Inside the entry building Bill turned right and looked in the press conference room, also jammed to overflowing. A row of Bill's colleagues sat up on the stage behind a long table crowded with mikes, facing the cameras and lights and reporters. Bill's friend Mike Collinsworth was answering a question about contamination, trying to look like he was enjoying himself. But very few scientists like other scientists listening in on them when they are explaining things to non-scientists, because then there is someone there to witness just how gross their gross simplifications are; so an affair like this was in its very nature embarrassing. And to complicate the situation this press corps was a very mixed crowd, ranging from experts who in some senses (social context, historical background) knew

more than the scientists themselves, all the way to TV faces who could barely read their prompters. That plus the emotional load of the subject matter, amounting almost to hysteria, gave the event an excruciating quality that Bill found perversely fascinating to watch.

A telegenic young woman got the nod from John and took the radio mike being passed around. "What does this discovery mean to you?" she said. "What do you think the meaning of this discovery will be?"

The seven men on stage looked at each other, and the crowd laughed. John said, "Mike?" and Mike made a face that got another laugh. But John knew his crew; Mike was a smartass in real life, indeed Bill could imagine some of his characteristic answers scorching the air, It means I have to answer stupid questions in front of billions of people, it means I can stop working eighty-hour weeks and see what a real life is like again; but Mike was also good at the PR stuff, and with a straight face he answered the second of the questions, which Bill would have thought was the harder of the two.

"Well, the meaning of it depends, to some extent, on what the exobiologists find out when they investigate the organisms more fully. If the organisms follow the same biochemical principles as life on Earth, then it's possible they are a kind of cousin to Terran life, bounced on meteorites from Mars to here, or here to Mars. If that's the case then it's possible that DNA analysis will even be able to determine about when the two families parted company, and which planet has the older population. We may find out that we're all Martians originally."

He waited for the obligatory laugh. "On the other hand, the investigation may show a completely alien biochemistry, indicating a separate origin. That's a very different scenario." Now Mike paused, realizing he was at the edge of his sound bite envelope, also of deep waters. He decided to cut it short: "Either way that turns out, we'll know that life is very adaptable, and that it can either cross space between planets, or begin twice in the same solar system, so either way we'll be safer in assuming that life is fairly widespread in the universe."

Bill smiled. Mike was good; the answer provided a quick summary of the situation, bullet points, potential headlines: "Bacteria On Mars Proves Life is Common in the Universe." Which wasn't exactly true, but there was no winning the sound bite game.

Bill left the room and crossed the little plaza, then entered the big building forming the north flank of the compound. Upstairs the little offices and cubicles all had their doors open and portable TVs on, all tuned to the press conference just a hundred yards away; there was a holiday atmosphere, including streamers and balloons, but Bill couldn't feel it somehow. There on the screens under the CNN logo his friends

were being played up as heroes, young devoted rocket scientists replacing astronauts by necessity as the exploration of Mars proceeded robotically—silly, but very much preferable to the situation when things went wrong, when they were portrayed as harried geek rocket scientists not quite up to the task, which was the extremely important (though underfunded) task of teleoperating the exploration of the cosmos from their desks. They had played both roles several times at JPL, and had come to understand that for the media and perhaps the public there was no middle ground, no recognition that they were just people doing their jobs, difficult but interesting jobs in difficult but not intolerable circumstances. No, for the world they were a biannual nine-hours' wonder, either nerdy heroes or nerdy goats, and the next day forgotten.

That was just the way it was, and not what was bothering Bill. He felt at loose ends. Mission accomplished, his TO DO list almost empty; it left him feeling somewhat empty; but that was not it either. He still had phone and e-mail media questions waiting, and he worked through those on automatic pilot, his answers honed by the previous week's work. The lander had drilled down and secured a soil sample from under the sands at the mouth of Shalbatana Vallis, where thermal sensors had detected heat from a volcanic vent, which meant the permafrost ice in that region had liquid percolations in it. The sample had been placed in a metal sphere which had been hermetically sealed and boosted to Martian orbit. After a rendezvous with an orbiter it had been flown back to Earth and been released in such a manner that it had dropped into Earth's atmosphere without orbiting at all, and slammed into Utah's Dugway Proving Grounds a mere ten yards from its target. An artificial meteorite, yes. No, the ball could not have broken on impact, it had been engineered for that impact, indeed could have withstood striking a sidewalk or a wall of steel, and had been recovered intact in the little crater it had made—recovered by robot and flown robotically to Johnson Space Center in Houston, where it had been placed inside hermetically sealed chambers in sealed labs in sealed buildings before being opened, everything having been designed for just this purpose. No, they did not need to sterilize Dugway, or all of Utah, they did not need to nuke Houston (not to kill Martian bacteria anyway), and all was well; the alien life was safely locked away and could not get out. People were safe.

Bill answered a lot of questions like these, feeling that there were many people out there who badly needed a better education in risk assessment. They got in their cars and drove on freeways, smoking cigarettes and holding high-energy radio transmitters against their heads, in order to get to newsrooms where they were greatly concerned to find out if they were in danger from microbacteria locked away behind triple hermetic seals in

Houston. By the time Bill broke for lunch he was feeling more depressed than irritated. People were ignorant, short-sighted, poorly educated, fearful, superstitious; deeply meshed in magical thinking of all kinds. And yet that too was not really what was bothering him.

Mike was in the cafeteria, hungrily downing his lunchtime array of flavinoids and anti-oxidants, and Bill joined him, feeling cheered. Mike was giving them a low-voiced recap of the morning's press conference (many journalists were in the JPL cafeteria on guest passes), "What is the meaning of life?" Mike whispered urgently, "it means metabolism, it means hunger at lunchtime, please God let us eat, that's what it means." Then the TVs overhead began to show the press conference in Houston, and like everyone else they watched and listened to the tiny figures on the screen. The exobiologists at Johnson Space Center were making their initial report: the Martian bacteria were around one hundred nanometers long, bigger than the fossil nanobacteria tentatively identified in ALH 84001, but smaller than most Terran bacteria; they were single-celled, they contained proteins, ribosomes, DNA strands composed of base pairs of adenine, thymine, guanine, and cytosine—

"Cousins," Mike declared.

—the DNA resembled certain Terran organisms like the Columbia Basement archaea *Methanospirillum jacobii*, thus possibly they were the descendant of a common ancestor—

"Cousins!"

—very possibly mitochondrial DNA analysis would reveal when the split had happened. "Separated at birth," one of the Johnson scientists offered, to laughter. They were just like the JPL scientists in their on-screen performances. Spontaneous generation versus panspermia, frequent transpermia between Earth and Mars; all these concepts poured out in an half-digested rush, and people would still be calling for the nuclear destruction of Houston and Utah in order to save the world from alien infection, from andromeda strains, from fictional infections—infictions, as Mike said with a grin.

The Johnson scientists nattered on solemnly, happy still to be in the limelight; it had been an oddity of NASA policy to place the Mars effort so entirely at JPL, in effect concentrating one of the major endeavors of human history into one small university lab, with many competing labs out there like baby birds in the federal nest, ready to peck JPL's eyes out if given the chance. Now the exobiology teams at Johnson and AMES were finally involved, and it was no longer just JPL's show, although they were still headquarters and had engineered the sample-return operation just as they had all the previous Martian landers. This diffusion of the project was a relief of course, but could also be seen as a disappointment—the

end of an era. But no—watching the TV Bill could tell that wasn't what was bothering him either.

Mike returned with Bill and Nassim to their offices, and they continued to watch the Johnson press conference on a desk TV in Nassim's. Apparently the sample contained more than one species, perhaps as many as five, maybe more. They just didn't know yet. They thought they could keep them all alive in Mars jars, but weren't sure. They were sure that they had the organisms contained, and that there was no danger.

Someone asked about ramifications for the human exploration of Mars, and the answers were scattered. "Very severely problematized," someone said; it would be a matter for discussion at the very highest levels, NASA of course but also NSF, the National Academy of Sciences, the International Astronomical Union, various UN bodies—in short, the scientific government of the world.

Mike laughed. "The human mission people must be freaking out."

Nassim nodded. "The Ad Martem Club has already declared that these things are only bacteria, like bathroom scum, we kill billions of them every day, they're no impediment to us conquering Mars."

"They can't be serious."

"They are serious, but crazy. We won't be setting foot there for a very long time. If ever."

Suddenly Bill understood. "That would be sad," he said. "I'm a humans-to-Mars guy myself."

Mike grinned and shook his head. "You better not be in too much of a hurry."

Bill went back in his office. He cleaned up a little, then called Eleanor's office, wanting to talk to her, wanting to say We did it, the mission is a success and the dream has therefore been shattered, but she wasn't in. He left a message that he would be home around the usual time, then concentrated on his TO DO list, no longer adding things to the bottom faster than he took them off at the top, trying to occupy his mind but failing. The realization was sinking in that he had always thought that their work was about going to Mars, about making a better world there; this was how he had justified everything about his life, the killing hours of the job, the looks on his family's faces, Eleanor's fully sympathetic but disappointed, frustrated that it had turned out this way, the two of them caught despite their best efforts in a kind of 1950s marriage, the husband gone all day every day—except of course that Eleanor worked long hours too, so that their kids had always been daycare and after-school care kids, all day every weekday. Once Bill had dropped Joe, their younger one, off at daycare on a Monday morning, and looking back in through the

window he had seen an expression on the boy's face—of abandonment and stoic solitude, of facing another ten hours at the same old place, to be gotten through somehow like everyone else—a look which on the face of a three year-old had pierced Bill to the heart. And all that—all the time he had put in, all those days and years, had been so that one day humans would inhabit Mars and make a decent civilization at last; his whole life burned in a cubicle because the start of this great project was so tenuous, because so few people believed or understood, so that it was down to them, one little lab trying its best to execute the "faster better cheaper" plan which contained within it (as they often pointed out) a contradiction of the second law of thermodynamics among other problems, a plan that they knew could only really achieve two out of the three qualities in any real-world combination, but making the attempt anyway, finding that the only true "cheaper" involved was the cost of their own labor and the quality of their own lives, rocket scientists running like squirrels in cages to make the inhabitation of Mars a reality—a project which only the future Martians of some distant century would truly appreciate and honor. Except now there weren't going to be any future Martians.

Then it was after six, and he was out in the evening smog with Mike and Nassim, carpooling home. They got on the 210 freeway and rolled along quite nicely until the carpool lane stalled with all the rest, because of the intersection of 210 and 110; and then they were into stop-and-go like everyone else, the long lines of cars brake-lighting forward in that accordion pattern of acceleration and deceleration so familiar to them all. The average speed on the L.A. freeway system was now eleven miles per hour, low enough to make them and many other Angelenos try the surface streets instead, but Nassim's computer modeling and their empirical trials had made it clear that for any drive over five miles long the clogged freeways were still faster than the clogged streets.

"Well, another red letter day," Mike announced, and pulled a bottle of Scotch from his daypack. He snapped open the cap and took a swig, then passed the bottle to Bill and Nassim. This was something he did on ceremonial occasions, after all the great JPL successes or disasters, and though both Bill and Nassim found it alarming, they did not refuse quick pulls. Mike took another one before twisting the cap very tightly on the bottle and stuffing it back inside his daypack, actions which appeared to give him the feeling he had returned the bottle to a legally sealed state. Bill and Nassim had mocked him before for this belief, and now Nassim said, "Why don't you just carry a little soldering iron with you so you can reseal it properly."

"Ha ha."

"Or adopt the NASA solution," Bill said, "take your swigs and then throw the bottle overboard."

"Ha ha, now don't be biting the hand that feeds you."

"That's the hand people always bite."

Mike stared at him. "You're not happy about this big discovery, are you Bill."

"No!" Bill said, sitting there with his foot on the brake. "No! I always thought we were the, the bringing of the inhabitation of Mars. I thought that people would go on to live there, and terraform the planet, you know, establish a whole *world* there, a second strand of history, and we would always be back at the start of it all. And now these damn bacteria are there already, and we may never land there at all. We'll stay here and leave Mars to the Martians, the bacterial Martians—"

"The little red natives—"

"And so we're at the start of nothing! We're the start of a dead end."

"Balderdash," Mike said.

And Bill's spirits rose a bit; he felt a glow like the Scotch run through him; he may have slaved away in a cubicle burning ten years of his life on the start of a dead-end project, a project that would never be enacted, but at least he had been able to work on it with people like these, like brothers to him now after all the years, brilliant weird guys who would use the word "balderdash" in conversation in all seriousness, because (in Mike's case) he read Victorian boy's literature for his entertainment, among other odd habits, a guy who in his reality had not in the slightest way appeared on TV while playing the Earnest Rocket Scientist, playing a stupid role created by the media's questions and expectations, all them playing their stupid roles in precisely the stupid soap opera that Bill had dreamed they were going to escape someday, What does life *mean* to you, Dr. Labcoat, what does this discovery *mean*, Well, it means we have burned up our lives on a dead-end project, "What do you mean balderdash!" Bill exclaimed. "They'll make Mars a nature preserve! a bacterial nature preserve, for God's sake! No one will risk even *landing* there, much less terraforming the place!"

"Sure they will," Mike said. "People will go there. Eventually. They'll settle, they'll terraform—just like you've been dreaming. It might take longer than you were thinking, but you were never going to be one of the ones going anyway, so what's the rush? It'll happen."

"I don't think so," Bill said.

"Sure it will. Whichever way it happens it'll happen."

"Oh thank you! Thank you very much! Whichever way it happens it'll happen? That's so very helpful!"

"Not your most testable hypothesis," Nassim noted.

Mike grinned. "You don't have to test it, it's that good."

Harshly Bill laughed, "Too bad you didn't tell the reporter that! Whatever happens will happen! This discovery means whatever it means!" and then they were all cackling, "This discovery means that there's life on Mars!" "This discovery means whatever you want it to mean!" "That's how meaning always means!"

Their mirth subsided. They were still stuck in stop-and-go traffic, in the rows of red blinks on the vast viaduct slashing through the city, under a sour milk sky.

"Well, shit," Mike said, waving at the view. "I guess we'll just have to terraform Earth instead."

How to Predict the Future

"I think you're making the very common mistake of imagining that a science fiction writer knows something about the future."

—Iain Banks

I was on stage with the great writer Iain Banks when he made this reply to a question from an audience at the British Library about what might be coming, and it got a big laugh. We do tend to think that science fiction is somehow about the future, and it is, but it's definitely a mistake to think that science fiction is about predicting the future. As predicting the future is impossible, it would be a heavy burden on science fiction to think that was all it was doing; it would crack the genre at its foundation.

That said, it is true that the future is definitely a defining aspect of science fiction. This, because of the future's unknowability, is both science fiction's problem and its power. We are all interested in the future, and we're always thinking about our individual futures, so we are all science fiction writers to that limited extent. In the project of constructing our own lives, prediction is a matter of modeling possible outcomes, based on possible courses of action we can pursue in the present. That's precisely the kind of prediction science fiction does for society at large. It needs to be understood as a kind of modeling exercise, trying on various scenarios to see how they feel, and how deliberately pursuing one of them would suggest certain actions in the present. It's a very fundamental human activity, a part of decision making, which is crucial to our ability to act.

So science fiction models possible futures for consideration, yes, but it should also be understood that its futures are metaphorical statements about the feel of the present. "It feels like time is speeding up." "My job is robotic." "Computers are taking over." These are metaphorical statements about the way the present feels to us. If they are mistaken for predictions only, the metaphorical power of science fiction gets lost. That would be

bad, because science fiction is always more about the present than it is about the future.

Both aspects have to be kept in mind when reading science fiction. It is at one and the same time an attempt to portray a possible future, and an attempt to describe how our present feels. The two aspects are like the two photos in a stereopticon, and when the two images merge in the mind, a third dimension pops into being; in this case, the dimension is time. It's history, made more visible than usual by way of science fiction's exercise of imaginative vision.

With the structure of the genre made clear, we can return to the idea of prediction. It's just a modeling exercise, so the spread of possible futures is one main point of the exercise; you need not just one prediction but the whole spread of them, because there is not a single future already baked into our current moment. Given where we are now, everything from a horrible mass extinction event to a stable utopian civilization could come to pass. In such an open situation, describing the range of possibilities itself is useful, even striking. But given how wide the range of real possibilities is, is there any way to narrow the field, and describe the futures that are most likely to occur?

The most common methods of extrapolation try to identify trends out of the recent past, and suppose that these trends will continue to change at the rate they have been. This is sometimes called "straight line extrapolation" and it can often be charted on a graph, which some people find illuminating, or validating, or comforting, because it then looks like we're describing something that really can be graphed and made statistically significant. So straight line extrapolation follows its straight line into the future, trending either up or down as the case may be. It's simple, and there's a certain plausibility to it that comes from the physical property of inertia. But it's also the case that very few phenomena in biology or human culture do actually change in this straight line way, so using a straight line to predict the future is likely to turn out to be wrong.

Replacements or supplements to straight line extrapolation then proliferate, as people try to match their models to the data in hand. Sometimes there are increasing returns that create curves that resemble a hockey stick, or the right side of a U, with growth headed for infinity. Thus for instance if you graph the growth of human population over its history, until very recently it looked like it was headed toward infinity. Again, this kind of growth seldom happens in the phenomenal world.

Another kind of trend curve is an asymptotic curve that flattens as it rises. Increases of food production since the green revolution tend to fit this curve, as do many other phenomena.

Combining a rapid rise with a flattening off creates the famous logistical growth curve, in which early new successes in some process create a rapid rate of change, but then exploitation of the various resources that made the change possible diminish as they are used, and the change rate levels off. Many biological processes follow this curve for a while, and it is a staple of population dynamics for that reason.

In the context of these curves, consider Moore's Law; it proposes a straight line rate of change in the size and speed of computer chips over time. But really this was just the straightest part of a logistical growth curve, with the slow gathering of the ability cut out of the start of the observation, and the leveling off of the accomplishment also cut off. If the historical timeline were extended far enough in both directions, Moore's Law would also become a logistical growth curve, and would be revealed as merely an observation about a certain number of years.

Other visual figures often used in predictions include circular or sine wave cycles; also bell curve parabolas, in which the up-down pattern seems more common to our perception than the down-up, though both must happen. Then there are non-linear breakpoints as described by chaos math, or the emergent qualities described in complexity studies. These latter two are often in effect attempts to model unpredictability, so using them to predict exactly when something might happen is in effect impossible.

There are other patterns and models one can invoke to aid prediction, but it's time to stop and remember that if you are trying to predict human history, all kinds of processes are going at the same time, each one possibly describable by one of the patterns mentioned above, but not reliably until time has passed; and many of these processes are happening at different speeds too, some fast, some slow; and they often cut against each other, so to speak.

The upshot is that trend identification and pattern graphing are of very limited use in predicting what is going to happen. It's basically impossible to do quantitatively or with any feeling of certainty. What prediction really comes down to is studying history, and looking hard at our current moment in its planetary, biospheric, and human aspects, and then—guessing.

Sorry, but it's true. It's obvious on inspection, and it's worth acknowledging or admitting this, to see what comes next.

Guessing is what science fiction admits to doing, and because science fiction is honest about this, it never says "this is what's going to happen, pay me ten thousand dollars and adjust your business plan accordingly"—that's futurology, or futurism, or whatever its business card calls it. The difference is easy to identify, because science fiction charges you not ten thousand dollars per visitation, but ten dollars, and says only, "This could happen—take a look, it's interesting." When science fiction does shift into futurology, which happens from time to time, you get Scientology, frozen head companies, and so on, ranging from the ridiculous to the horrible. But for the most part science fiction remains modest and playful in its so-called predictions, because it can't really be done.

These problems with prediction actually apply to the analysis of the human past as well. In his book *Metahistory*, the critic Hayden White showed how all the great historiographical theories of the famous historians of the nineteenth century could be reduced to four or five very basic stories, first seen in the most ancient myths and fairy tales. There was a golden age and then we fell; there were barbarous times and then we kept making things better; there is a circular cycle to history, or a rising gyre; virtue is rewarded, hubris punished; and so on. The discipline of history has never quite recovered from White's analysis, and has become more fine-grained and empirical, concentrating on recovering an account of what happened without the imposition of any great patterns, except in the most tentative sense. Predicting the future could use a similar correction, but in the absence of data, it is even more difficult than writing history.

Given these realities, one thing that the game of prediction can do is to try to identify those things happening in human and planetary history that have such a large momentum that they achieve a kind of inevitability, and you can confidently assert "this is very likely to happen." This could be called "looking for dominants." Examining Isaac Asimov's article from 1964 predicting the year 2014 provides a pretty good example of this process, along with the other chancier aspects of prediction as well.

https://www.nytimes.com/books/97/03/23/lifetimes/asi-v-fair.html

Asimov was great at this kind of thing: highly intelligent, extremely well-educated in both the sciences and the humanities, and aware that prediction was part of a game that he had played for years. So he threw himself into the assignment from the *New York Times* with gusto, making about fifty specific predictions about what would happen in the coming

half century. In 2014 his essay was reprinted, and I was asked to write a commentary about it, which I was very happy to do.

What became apparent to me is that when it came to specific predictions for technological and historical developments, he was right a bit more than half the time. Some of his predictions now seem obvious, others insightful, others misguided. It's another illustration of the problem inherent in the exercise. But on the largest question, which might be formulated as "what will dominate history in the coming half century," his prediction was very impressive: he pointed to the demographic problem. The human population in 1964 was about two billion, but many public health problems had been solved, so that infant mortality was greatly lessened, and at the same time, the green revolution was arriving with its promise of much more food. And the population of that time was relatively young. Taken all together, a kind of historical dominant was suggested by this demographic surge. And if the human population grew quickly, the pressure on the planet would increase. Asimov identified and explained these factors, and suggested that without widespread "rational and humane birth control," which was as far as he could imagine a change in the circumstances of women in particular, the problem would threaten progress in any other realm.

http://www.scifinow.co.uk/blog/kim-stanley-robinson-on-isaac-asimovs-1964-predictions/

This has substantially come to pass in the way Asimov predicted, and not only that, if we try to imagine a similar historical dominant now in our time, it is to an extent a derivative of the one Asimov identified in 1964. Climate change has begun, and is baked into our future; we are going to experience it, to one extent or another, no matter what we do from now on. Even more than population growth, which turns out to be quite variable depending on changes in our social systems, with the possibility of an abrupt drop already proven in some national situations, climate change is an easy call to make; it's going to happen.

That said, we can't predict well how much of it will occur, nor its local effects; these are contingent on a host of factors, including everything that we do from now on. So more specific predictions under the umbrella of this historical dominant are no easier than before, but it is possible to say that many things will happen based on our attempts to cope with climate change. Here at least some likely guesses can cluster. And again, by acknowledging the dominant factor, one is less likely to predict things that can't happen very well in a climate-changed world.

Indeed, this leads us to an important principle to remember: what can't happen, won't happen. This fairly obvious rule or counter-rule does seem to get lost in the shuffle sometimes, as we live in a culture of what might be called "scientism," which is another form of magical thinking. Many problems get waved away: we'll science our way out of them! The use of the word science as a verb is perhaps a giveaway to this form of magical thinking. But science is not magic, and some problems we are now creating, such as ocean acidification, are beyond our physical abilities to reverse in anything less than centuries or millennia, if ever. So the rule "if it can't happen it won't happen" is an important bordering function in the modeling exercises that we engage in when we play the prediction game. This principle might even help us to evaluate certain large scale predictions that are pretty common in our culture today. "Humanity will go to the stars." This old chestnut deserves re-examination, because the project is a lot harder than we thought when people first proposed it. As a prediction, it turns out to a bad one. I've been saying lately that since it can't happen, it won't.

Another very common prediction these days, it seems, is this notion of "the Singularity." Very soon, it is asserted, artificial intelligence will become so smart it will decisively outstrip human intelligence, and take over history, and then do—something. Head to the stars, cover the earth with computers, boss us around, whatever. Quite prominent public figures are warning us to beware of this possible future, including Elon Musk and Stephen Hawking. But business leaders and physicists are no better at prediction than anyone else; in essence they are playing the science fiction game, and that game is a great leveler. Cutting edge scientists are no doubt brilliant in their fields, but when they go emeritus and begin predicting the future among their other cultural pronouncements, it can get chancy. Einstein and Feynman were pretty good at it, Watson and Haeckel were not. Asimov was distinctly better than any of them, because he understood the methodologies of the game. So the authority of expertise in some other area is not a good reason to put much credence in anyone's prediction.

That said, the prediction of the Singularity is interesting, because it's a prediction, and therefore a science fiction story. Indeed it began as a story by the science fiction writer Vernor Vinge. Now recall what I said at the beginning, about science fiction being often a metaphor for how our present feels. It's true here too, and indeed this rescues the notion of the Singularity, which as a prediction ignores many realities of the brain, computers, will, agency, and history. As a metaphor, however, artificial intelligence stands for science. Science itself is that artificial intelligence we fear will take over: collective, abstract, mechanical, extending far

beyond individual human senses. What science knows, individuals could not learn by themselves. And yet we invented science and deployed it.

So when people say "a moment will come when artificial intelligence takes over human history," they are expressing a feeling, or a fear, that science and technology have taken on a momentum of their own that humanity no longer controls. In that sense, maybe the Singularity has already happened!

So it feels, and so people fear, and so the warnings against the Singularity, and artificial intelligence more generally, suddenly pop into focus and make sense—metaphorical sense. And in that sense we are even right to be afraid. We need to stay in charge of history; we have to make choices; technology, though powerful, and growing more powerful, is always a set of tools created as a result of human choices, meaning individual choices aggregated into political decisions. When we don't make those choices, when they seem to "make themselves," it really means we are making our decisions based on old data, old assumptions, and unexamined axioms that are like over-simple algorithms. And when we do that, bad things can happen. Which is what we are seeing with the complex of problems bearing down on us in this century.

So when we read people, brilliant and prominent or not, warning us about the dangers of computer AI and the possibility of a Singularity leaving us behind, we can roll our eyes (I do), or we can read them metaphorically, which is probably more productive, and understand them to be saying (even if they don't know it) this: there is no such thing as technological determinism, and if we pretend that there is, we will make mistakes as a civilization that will damage the biosphere in ways that will be extremely harmful to the generations following us, and to all life on Earth. The Singularity, in other words, is code for blind reliance on science, or the notion that we can "science our way out of anything." The AI that we fear might take over is already here, and is science itself; and we need to stay in charge of it. We need to keep making decisions about what we do as a species, and because we are becoming so powerful-and-yet-helpless, now more than ever.

So, a prediction: I predict that the global conversation will grow until everyone knows the global situation with a fair degree of clarity. There will be no secrets; the inequality of our economic system, the destruction of our biosphere's ability to support us, the possibility of a sixth great mass extinction event in Earth's history being caused by us, all this will be well known to everyone alive. The necessity to change our technological and social systems to avoid catastrophe and create a just and sustainable world for all will be evident. And necessity is the mother of invention. So we

will invent. The crux of the change will be in the laws we agree to live by, including the laws that define our economic system. Capitalism as we practice it now is the Chelabinsk-65 of contemporary technologies: dirty, brutal, destructive, stupid. It isn't capable of solving the problems we're faced with, and is indeed the name of the problem itself. So we will modify capitalism, law by law, until it is changed into a sustainable system.

Now of course one could predict the bad future, and say we will screw up, fight each other, cause the mass extinction event, go nearly extinct ourselves, and emerge blinking out of holes in the ground decades later, post-traumatic and brain-damaged as a civilization. This is possible, but its plausibility relies on assuming that human beings are stupid and cowardly and not good at cooperation. There are elements of truth in all these notions, perhaps; we are all things to ourselves; but the record of the species so far, in adapting to radical climate changes and many other stresses, suggests these bad traits are weaknesses rather than defining elements. And many of us believe that the AI that is science is a benign force that we control. So, taking a straight-line extrapolation of our history so far—oh but wait. Not the best method, as I've pointed out already. Instead, making a guess, based on an evaluation of all the trends we can see, it's still possible to predict that our intelligence and desire to do good for our children will see us through to the invention of a civilization in a stable relationship to the biosphere. After which I predict things will get even more interesting.

What Can't Happen Won't

This was written in 2015, in response to a request from my friend Cory Doctorow, who wanted me to comment on the implications of my novel *Aurora*.

> "The Earth is the cradle of humanity, but one cannot live in a cradle forever."
>
> —Konstantin Tsiolkovsky

Humanity traveling to the stars is an ancient dream, and a late nineteenth and early twentieth century project, proposed quickly after the first developments in rocketry. The idea spread through world culture, mainly by way of science fiction. Countless stories described people visiting planets orbiting other stars, and by a process of cultural diffusion, space travel became one part of a plausible and widely-held consensus future for humanity, a future we seemed to moving into with accelerating speed as the twentieth century progressed.

With the enormous successes of *Star Trek* and *Star Wars*, the idea was firmly planted in the popular imagination: if we survived as a species, we would be moving out into the galaxy. This awesome diaspora would mark our maturity or success as a species, and would enable us to outlive the Earth itself, should it suffer a natural disaster or be destroyed by some human folly. The thought of long-term galactic survival for humanity was comforting to some, and in any case it seemed inevitable, humanity's fate or destiny. When we landed people on the moon in 1969, and robots on Mars in 1976, it seemed we were already on the way.

But in the same century the idea spread, we were also learning things that made it seem less and less likely that we could do it. When the notion was first broached, we didn't even know how big the universe was; now we do, and it's bigger than we thought. Meanwhile, the tremendous increase in our knowledge of biology has taught us that human beings are much

more complicated than we thought, being in effect complex assemblages interpenetrated with larger ecologies.

These and other findings make a contemporary evaluation of the star-faring plan rather startling: one begins to see it can't be done.

Oh no! For some people this is a disturbing and deeply pessimistic conclusion to come to. Then when you combine that new judgment with the recently discovered problems concerning the plan to terraform and inhabit Mars (presence of perchlorates and absence of nitrogen), and we come to an entirely new realization about our species: there is no Planet B.

Earth is our only home.

Oh no again!

This conclusion, startling to some, obvious to others, has ramifications that are worth pondering. If it comes to be a generally agreed on view, it might change how we act as individuals and a civilization. These changes in behavior might turn out to be crucial for our descendants. So although this entire discussion consists of speculations about hypothetical futures, which is to say, science fictions, still they are worth thinking about, as useful orientations in our sense of our own history as a species.

The problems that will keep us from going to the stars can be loosely grouped into categories: physical, biological, ecological, sociological, and psychological. One could add economical, but economic problems are trivial compared to the rest, as economics is amenable to adjustment on demand. Reality is not so tractable.

Physically, the main issue is that the stars are too far away.

This problem has been finessed in many science fiction stories by the introduction of some kind of faster-than-light travel, but really this is not going to happen. It's a convenience employed to get us out into a great story space, a magic carpet that gives us the galaxy. I like that story space very much, but any realistic plan for getting to the stars will require slower-than-light travel, probably quite a bit slower. The usual speed mentioned in these discussions, as keeping a balance between the fastest one can imagine accelerating a spaceship while still being able to decelerate it later, is one tenth of light-speed.

The closest stars are four light years away, although now we know that this Centauri group has no planets we can terraform. Among other nearby stars, Tau Ceti, twelve light-years away, is now known to have planets in its habitable zone; they are too massive for human inhabitation (five or six *g*), but they might be orbited by habitable moons. Traveling at one-tenth light-speed, a voyage there would take 120 years plus the time needed for

acceleration and deceleration, so that people speak of approximately two hundred years transit time.

Thus a crossing to even the closest stars will require a multiple generation effort, and the spaceship will need to be a kind of ark, carrying all the other animals and plants the humans will carry with them to their new world. This suggests a very large and complicated machine, which would have to function in the interstellar medium for two centuries or more, with no possibility of resupply, and limited possibilities for repair. The spaceship would also have to contain within it a closed biological life support system, in which all the flows of energy and matter would have to recycle as close to perfectly as possible, minimizing catches or clogs of any kind.

Here is where the biological and ecological problems come to the fore, but sticking for now to purely physical problems, the starship would be exposed to far more radiation than we are on Earth, where the atmosphere and magnetosphere protect us to an extent. Effects of that extra radiation are not fully known, but they won't be good. Cladding would help, but would add to the weight of the ship; the fuel carried for deceleration might serve as cladding en route, but that fuel will get burned as the starship slows down, increasing the starfarers' exposure, already higher than it would have been on Earth.

Lastly, in terms of purely physical problems, if the starship runs into anything substantial (like a couple of kilograms) while moving at a tenth of light speed, the impact could be catastrophic.

These physical problems, especially those concerning propulsion and deceleration, are the ones that have received the most consideration by the starship discussion and advocacy community. As engineering problems they can be given at least hypothetical engineering solutions, using equations from physics that we know to be true. Thus they are, in effect, the easiest problems that starships will face, being relatively straightforward. But they aren't that easy.

Biological problems are harder for humans to solve than physical problems, because biology concerns life, which is extraordinarily complex, and includes emergent properties and other poorly understood behaviors. Ultimately biology is still physics, but it constitutes a more complex set of physical problems, and includes areas we can't explain.

We do know that things go wrong in biological systems, because this happens all the time; living things get sick and die. They also very often eat each other, or exist as diseases for each other. These realities mean that biological and ecological problems are much more intractable

than physical problems, and are unsolvable in the enclosed context of a multi-generational starship.

It's a matter of size of community, and its isolation from new inputs. A starship would be something like an island, but an island far more isolated than any island on Earth. Processes identified by island biogeography would apply inside a starship, and many of these processes would be accentuated by the radical isolation. As generations of people, plants and animals passed, reproductive and evolutionary success would be harmed by genetic bottlenecks, also disease, limits on resources, and so on. The super-islanding effect might cause more species than usual to become smaller, and to mutate in other ways, as one sees on ordinary islands. And because bacteria tend to evolve at faster rates than mammals, complete isolation may lead to the development of a suite of bacteria quite different from what the spaceship was sent off with. All mammals include huge numbers of bacteria living inside them, either symbiotically, parasitically, or without significant interaction, so this more rapid genetic shift in the bacterial community could become a big problem to all the larger creatures. On Earth there is a constant infusion of new bacteria into mammals, which sometimes can lead to bad results, as we know; but overall, it's a necessary aspect of healthy existence.

We are always teamed with many other living creatures. Fifty percent of the DNA in our bodies is not human DNA, and this relatively new discovery is startling, because it forces us to realize that we are not discrete individuals, but biomes, like little forests or swamps. Most of the creatures inside us have to be functioning well for the system as a whole to be healthy. This is a difficult balancing act, and does not work perfectly even on Earth; but divorced from Earth's bacterial load, and thus never able to get infusions of new bacteria, the chances of suffering various immune problems similar to those observed in over-sterile Terran environments will rise markedly.

Because we need a broad array of bacterial companions, one would want to bring along as much of Earth as you could fit into a starship. But even the largest starship would be about one-trillionth the size of Earth, and this necessary miniaturization would almost certainly lead to unknown effects in our bodies.

This leads us to the ecological problems, or perhaps we were there all along, because biology is always ecological, as every living thing is a miniature ecological system. But focusing on the level of the community brings up the problems created by the metabolic flow of substances in a closed biological life support system. These flows, of both living and non-living substances, would have to stay balanced within fairly tight

parameters, and they would have to avoid any major rifts or blockages. Cycles of oxygen and carbon dioxide, nitrogen, phosphorus, and many other chemicals and elements, would have to occur without major fluxes and without catch-points along the way where the element is getting clogged in the system. Earth experiences large ecological fluxes over time, with build-ups of certain elements (oxygen in the atmosphere, carbon in sedimentary rocks) that force evolutionary processes: whatever is alive has to adapt to the new conditions or go extinct. Both often happen.

These fluxes and build-ups would happen inside a starship too, but as the starfarers would be interested in keeping themselves from going extinct, they would have to manage or finesse all the flows to keep from being harmed by them. This would require supporting almost every other living component of the system, except the diseases they would inevitably carry with them; and if chemicals like phosphorus were bonding to substrates as they cycled in the water cycle, which is something they tend to do, this would be bad for the system as a whole. There would never be a chance for exterior additions to the system, nor any good way to stop the cycles, clean up the substrates and release clogged chemicals. Nor would it be easy to fight or escape diseases that would have piggybacked their way onto the ship; or to deal with any newly evolved aggressive microbial species suddenly feeding on plants, animals, or humans.

In short, a perfectly recycling ecological system is impossible; Earth is not one, and an isolated system a trillion times smaller than Earth would exacerbate the effects of the losses, build-ups, metabolic rifts, balance swings, clogging, and other actions and reactions. All that could be accomplished by starfarers in such an ark would be to deal with these problems as well as possible, minimizing them so that they might hang on long enough for the starship to reach its destination.

But if they do manage that, their problems would have just begun.

Before discussing the problems caused by arrival at the destination, we should finishing sketching the problems during the voyage that could be called sociological and psychological. Here things necessarily get more speculative, but for sure it can be said that the people inside the starship will constitute a small and isolated community compared to the population of Earth. And they will be trapped inside their spaceship, and will have to keep the spaceship functioning in order to survive. So whatever their political organization, whether it be military or anarchic, hierarchical or democratic, the situation itself can be called totalitarian.

By this I mean that their situation will demand certain behaviors to ensure their survival. They will have to tightly control their population; both maximum and minimum human numbers will be necessary, and

whatever system they devise to achieve this stability, it will not include individual unconstrained choice. Also, there will be quite a few jobs that will simply have to be filled in order for their life support systems to be maintained. Again, however they manage this issue, people will not be free to do what they want, or to do nothing. So in these areas of reproduction and work, generally regarded as basic to human meaning and political freedom, the society in the starship will have to rigidly control themselves. No matter their methods for achieving this control, they will end up living in some version of a totalitarian state. The spaceship will be their state, and to keep the spaceship functioning, the state will rule.

The psychological effects of all these constraints and problems, including the knowledge that Earth exists light years away, with a population millions of times bigger than the ship's, and a land surface a trillion times larger, cannot be known for sure. It might very well feel like exile; it might feel like being born and living one's entire life in prison.

Add to this inescapable isolation and confinement the effects of an entire life spent indoors, and it seems likely there would be some bad psychological effects. Indeed it seems like a recipe for psychological disaster, a veritable witch's brew of alienation and resentment. If anyone were to lose their sanity in this situation and decide to escape from it, it might be possible to sabotage the starship itself, destroying it and thus killing everyone aboard. Guarding against such a violent act would be necessary, thus adding to the totalitarian nature of the state, also to its stress and pressure. There would be not just alienation, isolation, and resentment, but also fear.

Of course people are adaptable, and humans tend to take their surroundings for granted. As starship life would be all they had ever known, the starfarers might indeed adapt to their situation. But they would know what that situation was, and know the situation on Earth. They would know that their fate was created for them by ancestors who made the choice to enter the starship, a choice they could never unmake. That might be irritating.

But say all these problems get solved somehow. Say the starship reaches its target star system, and goes into orbit around the planet the starfarers hope to inhabit. What happens then?

The planet or moon they hope to inhabit will be either alive or dead. It will either harbor indigenous life, or it won't. Both possibilities represent terrible problems for the settlers.

There is a third possibility, of course, which is that they won't be able to tell if the planet or moon is alive or not, just as we can't tell now whether Mars is alive or dead. In that case they would still have a prob-

lem, they just wouldn't know what kind of problem they had. Finding out could be hard.

If the planet harbors indigenous life, then how that life would interact with Terran life would be impossible to determine without experiment. It might turn out to be no problem, or a small problem, or a fatal problem, but for sure it would have to be investigated before the settlement could safely proceed. If the indigenous life proved to interact badly with Terran life, this would have to be dealt with, if possible. But dealing with it might not be possible. And at what point would people decide that it was safe to come in contact with an alien life form, much less coexist with it over the long haul? That would be a hard call to make.

If the planet turned out to be a dead rock, that would remove the problem of coexisting with an alien, but the planet would then have to be terraformed to make it habitable for Terran life, including humans. This would take many years, possibly centuries, possibly even thousands of years, depending on conditions and resources. Recall that the settlers will only have their single starship to power the effort, and planets or moons with gravity anywhere near Earth's gravity will be large. Terraforming any such body will definitely require a huge application of energy, and thus take a long time. And for most if not all of that time, the settlers will either have to wait in orbit in their starship, where all the starship's problems will still obtain, or they will live in shelters constructed on the surface of the planet, shelters that would be a grounded equivalent of the starship, still harboring most of the problems of a closed biological life support system. Either way, in space or on the new planet, they would still be experiencing most of the problems that the starship gave them during the voyage. Having survived a couple hundred years, could they continue that success much longer?

Hard to say; but for sure, arrival at the destination does not end their problems.

There have been many science fiction stories about starships published, and some have suggested various solutions to the problems outlined above.

One is to send small ships filled with frozen embryos, which would be automatically thawed and birthed on arrival. But this solution ignores the issue of the microbiomes existing inside us; these too would have to be brought along, and even with suites of intestinal bacteria perfectly preserved, calibrated, and introduced into the newborns, there then remains the problem of educating and socializing the new youngsters. Often, if the problem is mentioned at all, the idea seems to be that robots and films and libraries could do the job. Good luck with that!

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Another suggestion involves what is often called hibernation, or sometimes cold sleep, or cryonic suspension. In this scenario, an adult population is put into some state of suspended animation, then awakened or reanimated when the ship reaches its destination.

This seems promising at first, and indeed I used the idea myself as an emergency rescue method in my starship novel *Aurora*, so I'm familiar with the suggestion. But if this solution is not to become yet another version of the magic carpet, then it has to be remembered that these suspended passengers would not be completely frozen and inert, for then they would be dead. They are hibernating only; chilled and/or chemically slowed down, but not completely stopped; because we don't know how to restart humans who have completely stopped. The passengers would therefore be living some minimally-active form of life. They would still be alive.

That being the case, they would be aging. Physical problems that they had before being suspended would continue to etoliate; new physical problems might crop up, and proceed slowly along their course. This is what aging means, and slow or fast, it would happen in any living system. It's simply entropy again, rearing its head as it always does.

Because of this unavoidable process, even if we had a very successful method for slowing ourselves down, it would still not stop the passengers from aging and then dying, and that would set a limit on how far they could get. And the distances to the stars are so great that even if the bubble of the area that we could reach were expanded by a hundred times over what a normally living population might reach, that would still represent a small portion of the galaxy. A thousand light-year trip, taking over ten thousand years, would still only get us out to a bubble representing one percent of the Milky Way. That would include a lot of stars, but how many have just the right planet to fit our needs? And how would we know which ones those might be, in advance of a close examination of them? We would never know where to try to go in the first place, and wouldn't have the luxury of stopping to look around along the way.

So it won't work. But people want to believe in it. And it has to be admitted that all the problems combined together, still don't add up to the sheer impossibility of faster-than-light travel. Multi-generational starship travel is simply very, very, very unlikely to succeed. If the odds are something like a million to one, should we try it?

Maybe not.

Should we stop telling the story?

Maybe not. One of the best novels in the history of world literature, Gene Wolfe's *Book of the Long Sun* and *Book of the Short Sun*, a seven-vol-

ume saga telling the story of a starship voyage and the inhabitation of a new planetary system, finesses all these problems in ways that allow huge enjoyment of the story it tells. The novel justifies the entertaining of the idea, no doubt about it.

But when we consider how we should behave now, we should keep in mind that the idea that if we wreck Earth we will have somewhere else to go, is simply false. That needs to be kept in mind, to set a proper value on our one and only planet, so that a moral hazard is not created that allows us to get sloppy with our caretaking of it.

There is no Planet B! Earth is our only possible home!

Oh no!

But wait: why is that so bad?

Here everyone has to answer for themselves. I'm saying it's not bad at all; it just is, and it can be regarded as a good thing. And good or bad, it just is. That's reality. We are not gods, and anyone who thinks of science as a magic wand, or even as a verb, is making a mistake, a category error sometimes called scientism. Drill down a little harder on these issues, look at the evidence; use the scientific method properly. Limits to what we can do will quickly appear around you.

I'm not saying we shouldn't go into space; we should. We should send people to the moon, and Mars, and the asteroids, and every place we can in the solar system, putting up stations and swapping humans in and out of them. This is not only a beautiful thing to do, but useful in helping us to design a long-term relationship with Earth itself. Space science is an Earth science. The solar system is our neighborhood. But the stars are too far away.

After all that's been said above, I see one possible remaining starship story that could be believed:

Hibernating passengers are sent on a small fast starship to a likely-looking nearby planet, with a load of frozen embryos. Most of the hibernating passengers die en route, but some survive, aging and getting weaker, but alive when the destination is reached.

These ancients proceed to thaw, birth, and raise a cohort of embryos, successfully getting them to the stage of babies and toddlers. But now the hibernators, fully awake and alive, and thus aging at the usual rate, begin to die off. It's a race to get the youngsters raised and educated while there are still any elders alive to do the job. Eventually nine decrepit post-hibernation survivors find themselves caring for seventy-six five year-olds. Interesting times! This is the heart of the novel.

The planet they landed on luckily seems dead, and has ice on its surface, and even a breathable atmosphere (not likely but not impossible).

The elders spread Terran bacteria on the surface, then release all the plants and animals they brought with them, hoping to terraform the place as quickly as possible. The planet has nearly one *g*, which is a good thing for all Terran creatures' health, but means the planet is about as big as Earth. Terraforming will take a while, perhaps a few centuries.

They all move into a habitat on the surface built by their robots, near a frozen sea. After a couple of decades pass, all the hibernators have died, and the youngsters, all twenty-five years old now, have this new world to inhabit.

Good luck to them! Great story! It could join Joanna Russ's *We Who Are About To...* as one of the truly memorable planetary romances in science fiction. Like that great novel, it would be both interesting and believable—indeed not just believable, but the only starfaring scenario one could possible believe!

If you can.

Arthur Sternbach Brings the Curveball to Mars

All this happened as described, except in Switzerland. When I moved it to Mars I had to make the appropriate adjustments.

He was a tall skinny Martian kid, shy and stooping. Gangly as a puppy. Why they had him playing third base I have no idea. Then again they had me playing shortstop and I'm left-handed. And can't field grounders. But I'm American so there I was. That's what learning a sport by video will do. Some things are so obvious people never think to mention them. Like never put a lefty at shortstop. But on Mars they were making it all new. Some people there had fallen in love with baseball, and ordered the equipment and rolled some fields, and off they went.

So there we were, me and this kid Gregor, butchering the left side of the infield. He looked so young I asked him how old he was, and he said eight and I thought Jeez you're not *that* young, but realized he meant Martian years of course, so he was about sixteen or seventeen, but he seemed younger. He had recently moved to Argyre from somewhere else, and was staying at the local house of his co-op with relatives or friends, I never got that straight, but he seemed pretty lonely to me. He never missed practice even though he was the worst of a terrible team, and clearly he got frustrated at all his errors and strike-outs. I used to wonder why he came out at all. And so shy; and that stoop; and the acne; and the tripping over his own feet, the blushing, the mumbling—he was a classic.

English wasn't his first language, either. It was Armenian, or Moravian, something like that. Something no one else spoke, anyway, except for an elderly couple in his co-op. So he mumbled what passes for English on Mars, and sometimes even used a translation box, but basically tried never

to be in a situation where he had to speak. And made error after error. We must have made quite a sight—me about waist-high to him, and both of us letting grounders pass through us like we were a magic show. Or else knocking them down and chasing them around, then winging them past the first baseman. We very seldom made an out. It would have been conspicuous except everyone else was the same way. Baseball on Mars was a high-scoring game.

But beautiful anyway. It was like a dream, really. First of all the horizon, when you're on a flat plain like Argyre, is only three miles away rather than six. It's very noticeable to a Terran eye. Then their diamonds have just over normal-sized infields, but the outfields have to be huge. At my team's ballpark it was nine hundred feet to dead center, seven hundred down the lines. Standing at the plate the outfield fence was like a little green line off in the distance, under a purple sky, pretty near the horizon itself—what I'm telling you is that the baseball diamond about covered *the entire visible world.* It was so great.

They played with four outfielders, like in softball, and still the alleys between fielders were wide. And the air was about as thin as at Everest base camp, and the gravity itself only bats .380, so to speak. So when you hit the ball solid it flies like a golf ball hit by a big driver. Even as big as the fields were, there were still a number of home runs every game. Not many shut-outs on Mars. Not till I got there anyway.

I went there after I climbed Olympus Mons, to help them establish a new soil sciences institute. They had the sense not to try that by video. At first I climbed in the Charitums in my time off, but after I got hooked into baseball it took up most of my spare time. Fine, I'll play, I said when they asked me. But I won't coach. I don't like telling people what to do.

So I'd go out and start by doing soccer exercises with the rest of them, warming up all the muscles we would never use. Then Werner would start hitting infield practice, and Gregor and I would start flailing. We were like matadors. Occasionally we'd snag one and whale it over to first, and occasionally the first baseman, who was well over two meters tall and built like a tank, would catch our throws, and we'd slap our gloves together. Doing this day after day Gregor got a little less shy with me, though not much. And I saw that he threw the ball pretty damned hard. His arm was as long as my whole body, and boneless it seemed, like something pulled off a squid, so loose-wristed that he got some real pop on the ball. Of course sometimes it would still be rising when it passed ten meters over the first baseman's head, but it was moving, no doubt about it. I began to see that maybe the reason he came out to play, beyond just being around people he didn't have to talk to,

was the chance to throw things really hard. I saw too that he wasn't so much shy as he was surly. Or both.

Anyway our fielding was a joke. Hitting went a bit better. Gregor learned to chop down on the ball and hit grounders up the middle; it was pretty effective. And I began to get my timing together.

Coming to it from years of slow-pitch softball, I had started by swinging at everything a week late, and between that and my shortstopping I'm sure my teammates figured they had gotten a defective American. And since they had a rule limiting each team to only two Terrans, no doubt they were disappointed by that. But slowly I adjusted my timing, and after that I hit pretty well. The thing was their pitchers had no breaking stuff. These big guys would rear back and throw as hard as they could, like Gregor, but it took everything in their power just to throw strikes. It was a little scary because they often threw right at you by accident. But if they got it down the pipe then all you had to do was time it. And if you hit one, how the ball flew! Every time I connected it was like a miracle. It felt like you could put one into orbit if you hit it right, in fact that was one of their nicknames for a home run. Oh that's orbital they would say, watching one leave the park headed for the horizon. They had a little bell, like a ship's bell, attached to the backstop, and every time someone hit one out they would ring that bell while you rounded the bases. A very nice local custom.

So I enjoyed it. It's a beautiful game even when you're butchering it. My sorest muscles after practice were in my stomach from laughing so hard. I even began to have some success at short. When I caught balls going to my right I twirled around backwards to throw to first or second. People were impressed though of course it was ridiculous. It was a case of the one-eyed man in the country of the blind. Not that they weren't good athletes, you understand, but none of them had played as kids, and so they had no baseball instincts. They just liked to play. And I could see why—out there on a green field as big as the world, under a purple sky, with the yellow-green balls flying around—it was beautiful. We had a good time.

I started to give a few tips to Gregor, too, though I had sworn to myself not to get into coaching. I don't like trying to tell people what to do. The game's too hard for that. But I'd be hitting flies to the outfielders, and it was hard not to tell them to watch the ball and run under it and then put the glove up and catch it, rather than run all the way with their arms stuck up like the Statue of Liberty's. Or when they took turns hitting flies (it's harder than it looks) giving them batting tips. And Gregor and I played catch all the time during warm-ups, so just watch-

ing me—and trying to throw to such a short target—he got better. He definitely threw hard. And I saw there was a whole lot of movement in his throws. They'd come tailing in to me every which way, no surprise given how loose-wristed he was. I had to look sharp or I'd miss. He was out of control, but he had potential.

And the truth was, our pitchers were bad. I loved the guys, but they couldn't throw strikes if you paid them. They'd regularly walk ten or twenty batters every game, and these were five-inning games. Werner would watch Thomas walk ten, then he'd take over in relief and walk ten more himself. Sometimes they'd go through this twice. Gregor and I would stand there while the other team's runners walked by as in a parade, or a line at the grocery store. When Werner went to the mound I'd stand by Gregor and say, You know Gregor you could pitch better than these guys. You've got a good arm. And he would look at me horrified, muttering No no no no, not possible.

But then one time warming up he broke off a really mean curve and I caught it on my wrist. While I was rubbing it down I walked over to him.

Did you see the way that ball curved? I said.

Yes, he said, looking away. I'm sorry.

Don't be sorry, that's called a curve ball, Gregor. It can be a useful throw. You twisted your hand at the last moment and the ball came over the top of it, like this, see? Here, try it again.

So we slowly got into it. I was all-state in Connecticut my senior year in high school, and it was all from throwing junk—curve, slider, split-finger, change. I could see Gregor throwing most of those just by accident, but to keep from confusing him I just worked on a straight curve. I told him: just throw it to me like you did that first time.

I thought you weren't to coach us, he said.

I'm not coaching you! Just throw it like that. Then in the games throw it straight. As straight as possible.

He mumbled a bit at me in Moravian, and didn't look me in the eye. But he did it. And after a while he worked up a good curve. Of course the thinner air on Mars meant there was little for the balls to bite on. But I noticed that the blue dot balls they played with had higher stitching than the red dot balls. They played with both of them as if there was no difference, but there was. So I filed that away and kept working with Gregor.

We practiced a lot. I showed him how to throw from the stretch, figuring that a wind-up from Gregor was likely to end up in knots. And by mid-season he threw a mean curve from the stretch. We had not mentioned it to anyone else. He was wild with it, but it hooked hard; I had to be really sharp to catch some of them. It made me better at shortstop too. Although finally in one game, behind twenty to nothing as usual, a

batter hit a towering pop fly and I took off running back on it, and the wind kept carrying it and I kept following it, until when I got it I was out there sprawled between our startled center fielders.

Maybe you should play outfield, Werner said.

I said, Thank God.

So after that I played left center or right center, and I spent the games chasing line drives to the fence and throwing them back in to the cut-off man. Or more likely, standing there and watching the other team take their walks, I called in my usual chatter, and only then did I notice that no one on Mars ever yelled anything at these games. It was like playing in a league of deaf-mutes. I had to provide the chatter for the whole team from two hundred yards away in center field, including of course criticism of the plate umpires' calls. My view of the plate was miniaturized but I still did a better job than they did, and they knew it too. It was fun. People would walk by and say, Hey there must be an American out there.

One day after one of our home losses, 28 to 12 I think it was, everyone went to get something to eat, and Gregor was just standing there looking off into the distance. You want to come along? I asked him, gesturing after the others, but he shook his head. He had to get back home and work. I was going back to work myself, so I walked with him into town, a place like you'd see in the Texas panhandle. I stopped outside his co-op, which was a big house or little apartment complex, I could never tell which was which on Mars. There he stood like a lamppost, and I was about to leave when an old woman came out and invited me in. Gregor had told her about me, she said in stiff English. So I was introduced to the people in the kitchen there, most of them incredibly tall. Gregor seemed really embarrassed, he didn't want me being there, so I left as soon as I could get away. The old woman had a husband, and they seemed like Gregor's grandparents. There was a young girl there too, about his age, looking at both of us like a hawk. Gregor never met her eye.

Next time at practice I said, Gregor, were those your grandparents?

Like my grandparents.

And that girl, who was she?

No answer.

Like a cousin or something?

Yes.

Gregor, what about your parents? Where are they?

He just shrugged and started throwing me the ball.

I got the impression they lived in another branch of his co-op somewhere else, but I never found out for sure. A lot of what I saw on Mars I liked—the way they run their businesses together in co-ops takes a lot

of pressure off them, and they live pretty relaxed lives compared to us on Earth. But some of their parenting systems—kids brought up by groups, or by one parent, or whatever—I wasn't so sure about those. It makes for problems if you ask me. Bunch of teenage boys ready to slug somebody. Maybe that happens no matter what you do.

Anyway we finally got to the end of the season, and I was going to go back to Earth after it. Our team's record was three and fifteen, and we came in last place in the regular season standings. But they held a final weekend tournament for all the teams in the Argyre Basin, a bunch of three-inning games, as there were a lot to get through. Immediately we lost the first game and were in the loser's bracket. Then we were losing the next one too, and all because of walks, mostly. Werner relieved Thomas for a time, then when that didn't work out Thomas went back to the mound to re-relieve Werner. When that happened I ran all the way in from center to join them on the mound. I said, Look you guys, let Gregor pitch.

Gregor! they both said. No way!

He'll be even worse than us, Werner said.

How could he be? I said. You guys just walked eleven batters in a row. Night will fall before Gregor could do that.

So they agreed to it. They were both discouraged at that point, as you might expect. So I went over to Gregor and said Okay, Gregor, you give it a try now.

Oh no, no no no no no no. He was pretty set against it. He glanced up into the stands where we had a couple hundred spectators, mostly friends and family and some curious passers-by, and I saw then that his like-grandparents and his girl something-or-other were up there watching. Gregor was getting more hangdog and sullen every second.

Come on Gregor, I said, putting the ball in his glove. Tell you what, I'll catch you. It'll be just like warming up. Just keep throwing your curve ball. And I dragged him over to the mound.

So Werner warmed him up while I went over and got on the catcher's gear, moving a box of blue dot balls to the front of the ump's supply area while I was at it. I could see Gregor was nervous, and so was I. I had never caught before, and he had never pitched, and bases were loaded and no one was out. It was an unusual baseball moment.

Finally I was geared up and I clanked on out to him. Don't worry about throwing too hard, I said, just put the curve ball right in my glove. Ignore the batter. I'll give you the sign before every pitch; two fingers for curve, one for fastball.

Fastball? he says.

That's where you throw the ball fast. Don't worry about that. We're just going to throw curves anyway.

And you said you weren't to coach, he said bitterly.

I'm not coaching, I said, I'm catching.

So I went back and got set behind the plate. Be looking for curveballs, I said to the ump. Curve ball? he said.

So we started up. Gregor stood crouched on the mound like a big praying mantis, red-faced and grim. He threw the first pitch right over our heads to the backstop. Two guys scored while I retrieved it, but I threw out the runner going from first to third. I went out to Gregor. Okay, I said, the bases are cleared and we got an out. Let's just throw now. Right into the glove. Just like last time, but lower.

So he did. He threw the ball at the batter, and the batter bailed, and the ball cut right down into my glove. The umpire was speechless. I turned around and showed him the ball in my glove. That was a strike, I told him.

Strike! he hollered. He grinned at me. That was a curve ball, wasn't it?

Damn right it was.

Hey, the batter said. What was that?

We'll show you again, I said.

And after that Gregor began to mow them down. I kept putting down two fingers, and he kept throwing curve balls. By no means were they all strikes, but enough were to keep him from walking too many batters. All the balls were blue dot. The ump began to get into it.

And between two batters I looked behind me and saw that the entire crowd of spectators, and all the teams not playing at that moment, had congregated behind the backstop to watch Gregor pitch. No one on Mars had ever seen a curve ball before, and now they were crammed back there to get the best view of it, gasping and chattering at every hook. The batter would bail or take a weak swing and then look back at the crowd with a big grin, as if to say Did you see that? That was a curve ball!

So we came back and won that game, and we kept Gregor pitching, and we won the next three games as well. The third game he threw exactly twenty-seven pitches, striking out all nine batters with three pitches each. Walter Johnson once struck out all twenty-seven batters in a high school game; it was like that.

The crowd was loving it. Gregor's face was less red. He was standing straighter in the box. He still refused to look anywhere but at my glove, but his look of grim terror had shifted to one of ferocious concentration. He may have been skinny, but he was tall. Out there on the mound he began to look pretty damned formidable.

So we climbed back up into the winner's bracket, then into a semi-final. Crowds of people were coming up to Gregor between games to get him to sign their baseballs. Mostly he looked dazed, but at one point I saw him glance up at his co-op family in the stands and wave at them, with a brief smile.

How's your arm holding out? I asked him.

What do you mean? he said.

Okay, I said. Now look, I want to play outfield again this game. Can you pitch to Werner? Because there were a couple of Americans on the team we played next, Ernie and Caesar, who I suspected could hit a curve. I just had a hunch.

Gregor nodded, and I could see that as long as there was a glove to throw at, nothing else mattered. So I arranged it with Werner, and in the semifinals I was back out in right-center field. We were playing under the lights by this time, the field like green velvet under a purple twilight sky. Looking in from center field it was all tiny, like something in a dream.

And it must have been a good hunch I had, because I made one catch charging in on a liner from Ernie, sliding to snag it, and then another running across the middle for what seemed like thirty seconds, before I got under a towering Texas leaguer from Caesar. Gregor even came up and congratulated me between innings.

And you know that old thing about how a good play in the field leads to a good at bat. Already in the day's games I had hit well, but now in this semifinal I came up and hit a high fastball so solid it felt like I didn't hit it at all, and off it flew. Home run over the center field fence, out into the dusk. I lost sight of it before it came down.

Then in the finals I did it again in the first inning, back-to-back with Thomas—his to left, mine again to center. That was two in a row for me, and we were winning, and Gregor was mowing them down. So when I came up again in the next inning I was feeling good, and people were calling out for another homer, and the other team's pitcher had a real determined look. He was a really big guy, as tall as Gregor but massive-chested as so many Martians are, and he reared back and threw the first one right at my head. Not on purpose, he was out of control. Then I barely fouled several pitches off, swinging very late, and dodging his inside heat, until it was a full count, and I was thinking to myself, Well heck, it doesn't really matter if you strike out here, at least you hit two in a row.

Then I heard Gregor shouting Come on, coach, you can do it! Hang in there! Keep your focus! All doing a passable imitation of me, I guess, as the rest of the team was laughing its head off. I suppose I had said all those things to them before, though of course it was just the stuff you always say automatically at a ball game, I never meant anything by it, I

didn't even know people heard me. But I definitely heard Gregor, needling me, and I stepped back into the box thinking Look I don't even like to coach, I played ten games at shortstop trying not to coach you guys. And I was so irritated I was barely aware of the pitch, but hammered it anyway out over the right field fence, higher and deeper even than my first two. Kneehigh fastball, inside. As Ernie said to me afterwards, You *drove* that baby. My teammates rang the little ship's bell all the way around the bases, and I slapped hands with every one of them on the way from third to home, feeling the grin on my face. Afterwards I sat on the bench and felt the hit in my hands. I can still see it flying out.

So we were ahead 4-0 in the final inning, and the other team came up determined to catch us. Gregor was tiring at last, and he walked a couple, then hung a curve and their big pitcher got into it and clocked it far over my head. Now I do okay charging liners, but the minute a ball is hit over me I'm totally lost. So I turned my back on this one and ran for the fence, figuring either it goes out or I collect it against the fence, but that I'd never see it again in the air. But running on Mars is so weird. You get going too fast and then you're pinwheeling along trying to keep from doing a faceplant. That's what I was doing when I saw the warning track, and looked back up and spotted the ball coming down, so I jumped, trying to jump straight up, you know, but I had a lot of momentum, and had completely forgotten about the gravity, so I shot up and caught the ball, amazing, but found myself *flying right over the fence.*

I came down and rolled in the dust and sand, and the ball stayed stuck in my glove. I hopped back over the fence holding the ball up to show everyone I had it. But they gave the other pitcher a home run anyway, because you have to stay inside the park when you catch one, it's a local rule. I didn't care. The whole point of playing games is to make you do things like that anyway. And it was good that that pitcher got one too.

So we started up again and Gregor struck out the side, and we won the tournament. We were mobbed, Gregor especially. He was the hero of the hour. Everyone wanted him to sign something. He didn't say much, but he wasn't stooping either. He looked surprised. Afterwards Werner took two balls and everyone signed them, to make kind-of trophies for Gregor and me. Later I saw half the names on my trophy were jokes, "Mickey Mantel" and other names like that. Gregor had written on it "Hi Coach Arthur, Regards Greg." I have the ball still, on my desk at home.

Dystopia/Utopia

This was written in 2018 at the request of my friend Joshua Clover. It was published in the online magazine *Commune.*

Dystopias are the flip side of utopias. Both of them express feelings about our shared future; utopias express our social hopes, dystopias our social fears. There are a lot of dystopias around these days, and this makes sense, because we have a lot of fears about the future.

Both genres have ancient lineages. Utopia goes back to Plato at least, and from the start it had a relationship to satire, an even more ancient form. Dystopia is very clearly a kind of satire. Archilochus, the first satirist, was said to be able to kill people with his curses. Possibly dystopias hope to kill the societies they depict.

For a while now I've been saying that science fiction works by a kind of double action, like the glasses people wear when watching 3D movies. One lens of science fiction's aesthetic machinery portrays some future that might actually come to pass; it's a kind of proleptic realism. The other lens presents a metaphorical vision of our current moment, like a symbol in a poem. Together the two views combine and pop into a vision of History, extending magically into the future.

By that definition, dystopias today seem mostly like the metaphorical lens of the science-fictional double action. They exist to express how this moment feels, focusing on fear as a cultural dominant. A realistic portrayal of a future that might really happen isn't really part of the project—that lens of the science fiction machinery is missing. *The Hunger Games* trilogy is a good example of this; its depicted future is not plausible, not even logistically possible. That's not what it's trying to do. What it does very well is to portray the feeling of the present for young people today, heightened by exaggeration to a kind of dream or nightmare. To the extent this is typical, dystopias can be thought of as a kind of surrealism.

These days I tend to think of dystopias as being fashionable, perhaps lazy, maybe even complacent, because one pleasure of reading them is cozying into the feeling that however bad our present moment is, it's nowhere near as bad as the ones these poor characters are suffering through. Vicarious thrill of comfort as we witness/imagine/experience the heroic struggles of our afflicted protagonists—rinse and repeat. Is this catharsis? Possibly more like indulgence, and creation of a sense of comparative safety. A kind of late-capitalist, advanced-nation *schadenfreude* about those unfortunate fictional citizens whose lives have been trashed by our own political inaction. If this is right, dystopia is part of our all-encompassing hopelessness.

On the other hand, there is a real feeling being expressed in them, a real sense of fear. Some speak of a "crisis of representation" in the world today, having to do with governments—that no one anywhere feels properly represented by their government, no matter which style of government it is. Dystopia is surely one expression of that feeling of detachment and helplessness. Since nothing seems to work now, why not blow things up and start over? This would imply that dystopia is some kind of call for revolutionary change. There may be something to that. At the least dystopia is saying, even if repetitiously and unimaginatively, and perhaps salaciously, *Something's wrong. Things are bad.*

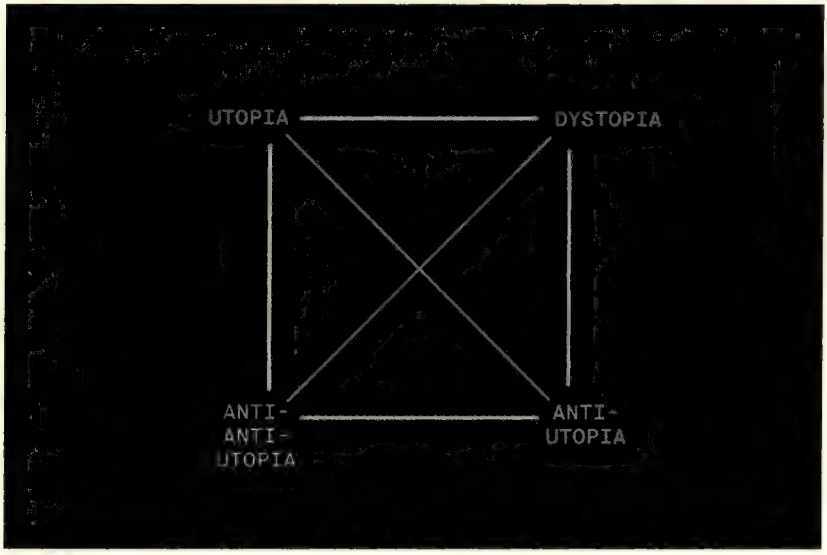
Probably it's important to remember the looming presence of climate change, as a kind of techno-social disaster that has already begun and which will inundate the next couple of centuries as some kind of overdetermining factor, no matter what we do. This period we are entering could become the sixth mass extinction event in Earth's history, and the first caused by human activity. In that sense the Anthropocene is a kind of biospheric dystopia coming into being every day, partly because of the daily activities of the bourgeois consumers of dystopian literature and film, so that there is a nightmarish recursive realism involved in the project: not just *Things are bad*, but also *We are responsible for making them bad.* And it's hard not to notice that we're not doing enough to make things better, so things will get worse too. Collective political action is necessary in order to make things better; fixing the problems will require more than personal virtue or renunciation. The collective has to change, and yet there are forces keeping the collective from seeing this: thus dystopia now!

It's important to remember that utopia and dystopia aren't the only terms here. You need to use the Greimas rectangle and see that utopia has an opposite, dystopia, and also a contrary, the anti-utopia. For every concept there is both a *not-concept* and an *anti-concept.* So utopia is the idea that the political order could be run better. Dystopia is the *not*, being

the idea that the political order could get worse. Anti-utopias are the *anti*, saying that the idea of utopia itself is wrong and bad, and that any attempt to try to make things better is sure to wind up making things worse, creating an intended or unintended totalitarian state, or some other such political disaster. *1984* and *Brave New World* are frequently cited examples of these positions. In *1984* the government is actively trying to make citizens miserable; in *Brave New World*, the government was first trying to make its citizens happy, but this backfired. As Jameson points out, it is important to oppose political attacks on the idea of utopia, as these are usually reactionary statements on the behalf of the currently powerful, those who enjoy a poorly-hidden utopia-for-the-few alongside a dystopia-for-the-many. This observation provides the fourth term of the Greimas rectangle, often mysterious, but in this case perfectly clear: ***one must be anti-anti-utopian.***

One way of being anti-anti-utopian is to be utopian. It's crucial to keep imagining that things could get better, and furthermore to imagine how they might get better. Here no doubt one has to avoid Berlant's "cruel optimism," which is perhaps thinking and saying that things will get better without doing the work of imagining how. In avoiding that, it may be best to recall the Romain Rolland quote so often attributed to Gramsci, "pessimism of the intellect, optimism of the will." Or maybe we should just give up entirely on optimism or pessimism—we have to do this work no matter how we feel about it. So by force of will or the sheer default of emergency we make ourselves have utopian thoughts and ideas. This is the necessary next step following the dystopian moment, without which dystopia is stuck at a level of political quietism that can make it just another tool of control and of things-as-they-are. The situation is bad, yes, okay, enough of that; we know that already. Dystopia has done its job, it's old news now, perhaps it's self-indulgence to stay stuck in that place any more. Next thought: utopia. Realistic or not, and perhaps especially if not.

Besides, it is realistic: things could be better. The energy flows on this planet, and humanity's current technological expertise, are together such that it's physically possible for us to construct a worldwide civilization—meaning a political order—that provides adequate food, water, shelter, clothing, education, and health care for all eight billion humans, while also protecting the livelihood of all the remaining mammals, birds, reptiles, insects, plants, and other life-forms that we share and co-create this biosphere with. Obviously there are complications, but these are just complications. They are not physical limitations we can't overcome. So, granting the complications and difficulties, the task at hand is to imagine ways forward to that better place.



Immediately many people will object that this is too hard, too implausible, contradictory to human nature, politically impossible, uneconomical, and so on. Yeah yeah. Here we see the shift from cruel optimism to stupid pessimism, or call it fashionable pessimism, or simply cynicism. It's very easy to object to the utopian turn by invoking some poorly-defined but seemingly omnipresent reality principle. Well-off people do this all the time.

Clearly we enter here the realm of the ideological; but we've been there all along. Althusser's definition of ideology, which defines it as the imaginary relationship to our real conditions of existence, is very useful here, as everywhere. We all have ideologies, they are a necessary part of cognition, we would be disabled without them. So the question becomes, which ideology? People choose, even if they do not choose under conditions of their own making. Here, remembering that science too is an ideology, I would suggest that science is the strongest ideology for estimating what's physically possible to do or not do. Science is AI, so to speak, in that the vast artificial intelligence that is science knows more than any individual can know—Marx called this distributed knowing "the general intellect"—and it continually reiterates and refines what it asserts, in an ongoing recursive project of self-improvement. A very powerful ideology. For my purpose here, I only invoke science to assert that the energy flows in our biosphere would provide adequately for all living creatures on the planet today, if we were to distribute them properly. That proper distribution would involve not just cleaner, ultimately decarbonized technologies—these are necessary but not sufficient. We would also have to redefine work itself

to include all the activities now called social reproduction, treating them as acts valuable enough to be included in our economic calculations one way or another.

An adequate life provided for all living beings is something the planet can still do; it has sufficient resources, and the sun provides enough energy. There is a sufficiency, in other words; adequacy for all is not physically impossible. It won't be easy to arrange, obviously, because it would be a total civilizational project, involving technologies, systems, and power dynamics; but it is possible. This description of the situation may not remain true for too many more years, but while it does, since we can create a sustainable civilization, we should. If dystopia helps to scare us into working harder on that project, which maybe it does, then fine: dystopia. But always in service to the main project, which is utopia.

Enough Is As Good As a Feast

This was written in 2017 at the request of David Sergeant, who included it in an online event called "Feasts for the Future".

I've lived in a small alternative community for the past twenty-seven years. It's not that alternative, really just a suburban subdivision near the west edge of Davis, California, called Village Homes. Eighty-five acres of tomato fields were developed in the late 1970s, with the idea of tweaking the usual template of American postwar suburbia to something more like a European village from an older era. Streets were made as dead-ended lanes, walking paths ran between fenceless common areas, and swales were cut into the land to capture water in the rainy season and direct it back down into the ground. Residents own their own homes, and usually have a small private courtyard space, but otherwise the land is owned communally by all homeowners, and decisions about land use are made by a small volunteer government with town hall voting. Organic gardening space is available to all who want it, and the landscaping is mostly edible in the form of fruit and nut trees. The community is anchored by a small restaurant, a set of offices for rent, a swimming pool, and, crucially, a pre-school daycare center that rents the community center during weekdays. Energy use is about forty percent of typical suburban use, and about eight hundred or a thousand people live here, so it is neither very energy-efficient nor very densely populated. Taken all in all, it's not paradise or utopia or the housing solution to the world's ills, but it is nice, and for me it has proved the idea that urban design influences social reality, and that infrastructure helps to determine social and human relations.

Thus Village Homes; and because it's residential, there is a food angle to it, including that social aspect of food we sometimes call a feast.

The crucial element in our social life, as I said, was the preschool in the community center. We've never met all the people in the village, but we did meet the parents of the kids that our kids were playing with at school. The pool next to the community center, and the big green flanking it, were obvious places to go after picking up the kids, and as the kids continued to play together, the parents got to know each other. Thus grew some of the closest relationships of our life, those family-by-affinity relationships that I think were common in older forms of village life. It was easy and felt natural, and it's lasted beyond the time of the children growing up. And as part of that, we often ate together.

In those years, a gazebo at the south end of the big green served as a meeting place for potluck dinners. For many years we met there on Thursdays, spring through fall. In the long evenings people brought out vegetarian dishes, which often included vegetables and fruits grown in our gardens. The kids ate and played on the big green, the parents ate and talked. The absence of meat in any of the dishes seemed insignificant. If someone did bring a meat dish, it was signed as such, and eaten like anything else. The variety of dishes was wonderful, and I found the ease with which such quality dining and socializing could be created remarkable. Having grown up in the atomized standard American suburbia of the 1950s, consisting of nuclear families each tucked into their own mini-castle, I was perpetually amazed that such little adjustments in form could lead to such big improvements in content.

As the topic here is the future of feasts, I think it's worth mentioning briefly the possibility of vat-grown meats becoming available in the future. To an extent this is a non-issue, in that the feedstocks for any such futuristic food products are going to still be organic chemicals derived from plant materials, so they aren't going to be very different from the already-existing plant-based substitutes for meat that we have now. But they might taste meatier, because they might indeed be meat, literally animal muscle and fat, cultured from sample tissues; which means they won't have come from the growing and killing of sentient beings. That would be worth pursuing. Shifting land away from animal husbandry, especially of cows and sheep, would ease our immense burden on the biosphere and the atmosphere, leaving more room for wild creatures. It would be better for our carbon balance, and most importantly, hugely better in terms of how we treat our fellow creatures. So, vat-grown meats, genetically modified? Yes, please.

In the meantime, the loosely vegetarian orientation of our Village Homes potlucks felt good, for the reasons cited above, both environmen-

tal and animal-moral. The variety of cooking styles at each meal was huge and made the absence of meat barely noticeable—really the meals were a treat for the senses.

I found that the peace and quiet of the evenings, and the sight of so many faces of known friends and acquaintances, all gathered so casually, combined to create a particular pleasure that never went away. Ease and unpretentiousness were very important to that feeling. Maybe one aspect of the commons that we don't know enough about to miss, having lived our lives without a commons, is that lack of structure and leadership. This was brought home to me by the way we used to harvest the village's almond trees, which grew in a three-tree strip along the street bordering our village. On harvest day a mechanical shaker like a small tractor was hired to visit, and as its operator drove from tree to tree, we moved big canvas sheets ahead of him, spreading them under the trees. Then he would clamp their trunks with his device's clawed arm, and it would shake down the almonds in a brief violent shivering, and when the almonds were all down we would pull the sheets over to the street and dump the almonds into the gutter, where they could be easily swept into big burlap bags and later transferred to a long carport roof for drying in the sun. All this was done with no leadership, and even no organization; people just did what they wanted to. That self-organizing got the job done as efficiently, or maybe more efficiently, than if someone had been directing us. This felt wonderful. It felt ancient. It was harvesting, or gleaning, and it was palpable in our brains and bodies that we had had evolved to do such things. We were social primates doing a social primate thing. The experience made me feel sure that vast parts of our brain still lie in wait, ready for moments like that one.

The potluck meals felt like that too. They were not feasts in the sense the word usually evokes; they were social, like feasts are, but they did not involve an excess of food. Quite often there wasn't even enough food, and over time we had to adjust and bring a little more to make sure everyone got fed. But "enough is as good as a feast." This is an ancient English saying, it appears in the first few pages of *Bartlett's Quotations*, authored by the great anonymous. It's worth pondering that phrase for a long time. Hungry people invented that phrase. It's not a capitalist sentiment, in fact it reverses capitalist logic, but it could become part of a post-capitalist structure of feeling. The brain and body feel it well. One could even add to it, now, the medical news that not only is enough as good as a feast, it's better than a feast—as a feast is too much, by definition, and will make you sick, especially if you feast every day, as capitalism urges you to do. So as a working axiom for going forward, and finding a way to get in proper synch with our biosphere, even with all the eight billion people alive, and

all the wild creatures too, it seems to me a crucial thing to keep in mind. Enough is as good as a feast—or better. And that's a good thing.

Now that the kids have grown up and moved away, our potluck in the village has stopped happening. Other potlucks in the village still fill the two greens on different nights; these may be focused on kids, or on particular common areas, or friendship groups within the village. I always like seeing them. For us, the potlucks served their purpose in their time. Maybe we'll revive them some day, those of us who still live here. Whether or not we do, it was a beautiful act of social creation—a result of living with a commons, rearing the kids together, and thinking socially and creatively. Food mattered and was a great pleasure, but it was only one part of a larger way of life. We were lucky.

Source of the Peach Blossom Stream

This is Ta Shu's try in English at the poem *Tao Yuan Xing* by Wang Wei, written in the common year 718 when Wang was nineteen years old. The poem was Wang's adaptation of a famous fable *Tao Hua Yuan Ji*, written by Tao Yuanming in the year 421. Ta Shu's version appeared in my novel *Red Moon*.

Wandering we came on a swift river.
Clear water, granite pebble bottom.
Riffles and rapids and long still pools,
Willows hanging over the banks,
Big fish tucked in the shadows,
And floating down like little boats,
Peach blossoms. Lots of them.

We climbed upstream to find the trees
Dropping these petals of floating pink.
The river narrowed, rose into a defile.
We had to clamber, one side then the other,
Feet wet at one cross, hands on rock looking down.
Then the gorge opened and we were in a high valley.

Fields of grain, neat houses, and yes: peach trees.
They lined the banks, dropping their blossoms
On the slow meander of a little river.
People came out to greet us:
Where are you from? What's the news?
They fed us and showed us a bower to sleep in.

These people were peaceful, calm, kind.
The valley was fertile and full of animals.
We stayed until we saw what it was: a good place.
To live here would be fulfillment.
So we said to each other, let's get our families
And bring them back. Let's move here.

We left that place and picked a way
Down the narrow gorge, back into the world.
Traveled home and made our accounting,
Convinced who we could to go back with us.
Off we went with packs on our backs,
Back to that place where the peach blossoms fell.

We could not find it. Somehow the hills were
Not the same. No such river where we thought.
Back and forth we made a search, back and forth
But nothing. Different streams, different lands.
That place in space was a moment in time:
You can never find your way back.
Search all your life you will only despair.
Dustless garden, how to tell? Where to find?

Six Day Poems by the Widow Kang

These are from Chapter Six, "Widow Kang," in *The Years of Rice and Salt*. Kang lived during the Qing dynasty, and was writing these poems around our year 1776.

The old man in the moon tied red threads
Around our legs when we were babies.
We met and married; now you are gone.
Ephemeral life is like water flowing;
Suddenly we have been separated by death all these years.
Tears well up as an early autumn begins.
The one who has not yet died is dreamed of
By a distant ghost. A crane flies, a flower falls;
Lonely and desolate, I set aside my needlework
And stand in the courtyard to count the geese
Who have lost their flocks. May Bodhisattva Guanyin
Help me get through these chill final years.

My poor monkey dropped its peach
The new moon forgot to shine.
No more climbing in the pine tree
No little monkey on its back.
Come back as a butterfly
And I will be your dream.

I am older than China itself
I walked in the jungle hunting for food
Sailed the seas across the world
Fought in the long war of the asuras.
They cut me and I bled. Of course. Of course.
No wonder my dreams are so wild,
No wonder I feel so tired. No wonder I am always
Angry.
Clouds mass, concealing a thousand peaks;
Winds sweep, coloring ten thousand trees.
Come to me husband and let us live
The next ten lives together.

On the night before I first gave birth
The ghost of the old monk Bai
Appeared before me. He said,
With your permission, Lady, I will come back
As your child. In that moment
I knew reincarnation was real. I said,
What have you been, what kind of person are you
Thus to replace the soul already in me?
He said, I have been yours before.
I've followed you through all the ages
Trying to make you happy. Let me in
And I will try again.

Child of mine coming into this world
Be careful where you take yourself.
So many ways for things to go wrong;
Sometimes I grow afraid.
If only we lived in the Age of Great Peace
I could be happy to see your innocent face
Watching the geese fly south in the fall.

Two wild geese fly north in the twilight.
One bent lotus droops in the shallows.
Near the end of this existence
Something like anger fills my breast;
A tiger: next time I will hitch it
To my chariot. Then watch me fly.
No more hobbling on these bad feet.
Now there is nothing left to do
But scribble in the dusk and watch with the beloved
Peach blossoms float downstream.
Looking back at all the long years
All that happened this way and that
I think I liked most the rice and the salt.

Prometheus Unbound, at Last (And None Too Soon)

This was written at the request of Henry Gee, editor at *Nature*. He put a one-page sf story on the last page of every issue of the magazine for well over a year.

Reader Report:

This novel postulates that science is an ongoing utopian proto-political experiment poorly theorized as such and lacking a paradigm within which to exert power in human affairs commensurate with its actual productive capacity and life-maintenance criticality. Scientists are first seen marginalized from macro-decision-making in a backstory written in style of Cold War thriller, in which agents sequester science by convincing Truman *et al.* that science's metastasizing wartime ability to create new technologies crucial to victory (radar, penicillin, atom bomb) might constitute a threat to postwar civilian-corporate control of society.

Scientists, subsequently inoperative in surplus value investment and allocation decisions, produce goods and services unconscious of themselves as a group and individually willing to work within the existing hierarchical extractive nonsustainable system for $100,000 ± $50,000 annually plus pension, stock options, and a light teaching load. This chapter is in the form of a zombie novel, highly amusing.

Then the scientifically-augmented human population catastrophically overshoots the long-term carrying capacity of the planet. Scientists in their various non-decision-making toothless organizations conclude that the anthropogenically initiated climate change, and mass extinction event associated with it, probably threatens their descendants' welfare, thus scientists' own evolutionary fitness. The sleepers awake.

Meanwhile a certain proportion of humanity makes a cost/benefit analysis comparing fifteen years' work learning a science to saying "I believe" and through group political action controlling more calories per capita than scientists do, also more power over funding and rather more offspring. Many conclude faith-based parasitism on science less costly to the individual, therefore more adaptive. Vampires living off zombies, guns brandished, chases by night: the novel gets pretty lurid at this point.

Then at a modeling conference a discussion springs up concerning Hamilton's Rule, which states that altruism should evolve whenever the cost to the giver, *C*, is less than the fitness benefits, *B*, obtained by helping another individual who is related by *r*, *r* being calculated as the proportion of genes these two individuals share by common descent (as in Hrdy, 1999):

$$C \leq Br$$

A geneticist at the conference points out that since humans share 60% of their genes with fruit flies, and all eukaryotes share 938 core genes, *r* is probably always higher than heretofore calculated. An ecologist mentions the famous *Nature* article in which the benefits provided by the biosphere to humans were estimated at 33 trillion dollars a year (Costanza *et al.*, *Nature* 387, 1997). An economist suggests that the cost for individual scientists wanting to maintain these benefits could be conceptualized in the form of a mutual hedge fund, with initial investment set for the sake of discussion at one thousand dollars per scientist. Comic scene here as modelers debate the numbers, with a biologist pointing out that the benefit of life to every living organism could justifiably be defined as infinity, considerably altering equation's results. Shouting, fights, saloon demolished in Wild West manner.

Conference attendees conclude altruism is probably warranted, and hedge fund is established. (Readers of novel wishing to pre-invest are directed to www.sciencemutual.net). Participating scientists then vote to establish a board, a model constitution for all governments to adopt, a policy research institute tasked with forming a political platform, and a lobbying firm. All scientific organizations are urged to join the fund. Fund's legal team goes to World Court to claim compensation for all future biospheric damage, to be paid into the fund by those wreaking the damage and the governments allowing it. Many meetings follow, no doubt explaining the presence in this chapter of most of the novel's sex scenes. Author seemingly familiar with and perhaps overfond of the bonobo literature. Strenuous attempts to maximize reproductive success, in Davos, Santa Fe, Las Vegas, etc.

Novel's style shifts to amalgam of legal thriller and Tolkienesque high fantasy as scientists take power from corporate military-industrial global elite. A Spinradian strategic opacity here obscures the actual mechanism that would allow this to work in the real world, said opacity created by deployment of complicated syntax, phrases low in semantic content ("information cascade"), especially active stage business (man runs through with hair on fire), explosions, car chases, and reinvocation of very big numbers, in this case Science Mutual's potential assets if World Court returns positive judgment, after which subsequent chapter (with toll-free number as epigraph!) opens in newly utopian space, looking plausible to those still suspended in Coleridgean willed non-disbelief.

Speed of narration accelerates. Science Mutual arranges winners in all elections everywhere. Hedge fund continues to grow. Scientific organizations form international supra-organization. Black helicopters proliferate. Entire population decides to follow new scientific guidelines indicating that reproductive fitness is maximal the closer behavior conforms to paleolithic norms, this being the lifestyle that tripled brain size in only 1.2 million years. Widespread uptake of this behavioral set augmented by appropriate technology (especially dentistry) reduces global resource demand by one magnitude despite demographic surge to UN-predicted mid-range peak of ten billion humans. A rationally balanced positive feedback loop into maximized universal fitness emerges. Novel ends with standard finale, singing, dancing, reproducing. All Terran organisms live optimally ever after.

Reader recommends acceptance for publication, with the suggestion that the apparent size of the text's strategic opacity be reduced to three seconds of arc or less; also, publisher should take steps to secure domain name sciencemutual.com; also, more car chases.

The Worst Journey in the World Revisited

For this essay and all my Antarctic adventures, I owe many thanks to Guy Guthridge, who founded the NSF's Antarctic Artists and Writers' Program, and ran it for its first decades. He welcomed me into the program in 1995, and has been helping me in matters Antarctic ever since.

In May of 1911, Robert Scott and the twenty-four men under his command said good-bye to the sun and settled in for the long Antarctic winter. They were squeezed into a big wooden cabin they had built at Cape Evans on Ross Island, a rectangular hut about fifty feet long and thirty wide, containing a single big room with attached stables. When the sun returned in September, they were going to try to become the first people to reach the South Pole. For now, they were cut off from the world.

Strangely, given how unusual their situation was, there was another group down there also wintering over. Roald Amundsen and his team of Norwegians had camped on the edge of the Ross Ice Shelf about 400 miles to the east, after sending a note to the British team to say they too would be trying for the Pole in the spring; this in the spirit of fair play, in what was now a race. Amundsen was an experienced Arctic explorer, and his plan was simple: dogs would pull their sleds, and they weren't going to do any scientific research. They were only there to get to the Pole. Their dogs would serve as both propulsion and provision; on the trip back some of them were to be killed and eaten.

At Cape Evans it wasn't like that. Scott's expedition had been sponsored by the British Royal Geographic Society, and his group included twelve scientists, pursuing studies in geology, meteorology, and biology. Reaching the Pole was the primary goal for Scott, and even for his sponsors, but they also wanted to be understood as a scientific expedition in

the tradition of Captain Cook, or Darwin on the *Beagle*. Their hut resembled a Victorian laboratory as much a naval ship's wardroom.

Another unresolved issue in the British group concerned how exactly they were going to get to the Pole. They had brought sled dogs, Siberian ponies, and three experimental motorcars, and after setting up on Cape Evans they had ventured out on several trips to test all these methods of transport. None had worked very well for them, and mostly they had ended up pulling the sledges themselves. The first part of Apsley Cherry-Garrard's memoir *The Worst Journey in the World* describes in detail this summer and fall of trial runs, and the relentless succession of close calls—storms, falls into crevasses, getting marooned on ice floes, fending off killer whale attacks—creates an effect part Keystone Kops, part nightmare. They were very lucky no one got killed, but they did lose seven of their seventeen ponies to either accident, illness, or cold.

So as that winter closed down, some of them were apprehensive. They passed the dark cold days cooking meals, writing a comic newspaper, giving lectures, and exercising the dogs and ponies by starlight. Scott spent hours making plans for the polar attempt, plans in which he included all the modes of locomotion they had so dramatically failed to master. Some of his officers expressed doubts to their diaries about Scott's plans, but it was common in the late British empire to rely on pluck and grit to muddle through difficult situations, so they said nothing and carried on. The little pony snowshoes still hanging on the walls of the Cape Evans hut bear mute witness to just how inadequate their adjustments to Antarctica could be. Disaster was all too possible.

Then on June 27th, a week past the winter solstice, Scott's second-in-command, Edward "Bill" Wilson, and two of the men, Royal Marines lieutenant Henry "Birdie" Bowers and zoological assistant (and major expedition funder) Apsley Cherry-Garrard, known as "Cherry," took off on a trip to Cape Crozier, at the other end of Ross Island, seventy miles away. They were going to man-haul two sledges through the perpetual night of the Antarctic winter, exposed to the coldest temperatures human beings had ever traveled in.

Really? This seems like a very crazy thing to do, not just intrinsically, but in the context of the expedition's primary goal. If the point was to get to the South Pole, and it was, then this side trip was at best a dangerous distraction, at worst a show-stopper.

But the research side of their expedition was real. And Bill Wilson, a scientist specializing in ornithology, had a project in mind. He had been with Scott in the Antarctic in 1902, and while sailing around Ross Island they had found a colony of emperor penguins at Cape Crozier, and learned that these birds lay their eggs in midwinter. When Scott

asked Wilson to join him again in 1910, Wilson agreed on the condition that he be allowed to make a midwinter trip from Cape Evans to Cape Crozier to obtain some of these eggs. It was important to Wilson, because the eggs might shed light on some of that decade's pressing questions in evolutionary biology. If emperor penguins were the most primitive species of birds, as they were thought to be, and if ontogeny recapitulated phylogeny, as Ernst Haeckel had convinced many was the case, then embryonic penguins might reveal tiny reptilian scales developing into feathers. That would be a spectacular finding.

Both the theories in question turned out to be wrong: penguins are not primitive birds, nor does ontogeny recapitulate phylogeny. But it was only by collecting data in the field that such theories could be tested. Antarctica was hard to get to, however, and no one had ever had the opportunity to collect emperor penguin eggs right after they hatched. For Wilson it was a chance like those Darwin and Wallace had seized in their time, and far more important to him than reaching the South Pole. Realizing this, and wanting him along for his capable leadership and friendly company, Scott had agreed to let him try for Cape Crozier while the rest of them waited out the winter.

So when that June day came, Wilson, Bowers, and Cherry-Garrard left Cape Evans and started hauling their two sledges. Cherry's account of this mid-winter journey is the heart of his great book, and it's the journey that his title refers to. Scott's trip to the Pole killed people, true; but it was this winter trip that was the worst journey in the world.

I first read Cherry-Garrard's book in my twenties and was powerfully impressed by it, as many readers are. It's been rated the best adventure book ever written, and that doesn't really do it justice; it's much more than an adventure book.

I re-read it in 1995, as part of my preparations for a trip to Antarctica that I made that year courtesy of the National Science Foundation's Antarctic Artists and Writers' Program. That was a dream of a trip, a joy every day for six weeks, and as I traveled around the continent, by snowmobile and helicopter and airplane, Cherry's book bulked larger and larger in my mind. I wanted to feature it in the novel about Antarctica I was going to write when I got home, even though my book was going to be science fiction. This presented a bit of a problem, but then the character Ta Shu came to me, a Chinese travel host who tells his audience back home the stories from the classic era of British exploration, using his own feng shui perspective. With that solution in mind, I asked my hosts in McMurdo if I could visit all the historic huts on Ross Island, and they were happy to oblige. It's a common request, and the huts on the west side of the island

are all easy to get to. The Discovery hut is located right on the outskirts of McMurdo, Cape Evans is ten miles north by snowmobile, Cape Royds ten miles farther along the coast.

The little rock shelter left by the Winter Journey trio at Cape Crozier is not as well-known as these huts, nor as easy to get to, but my hosts agreed to transport me out there too. They were wonderfully friendly and accommodating; things were pretty easy-going there in 1995, and as one of their visiting artists—called Woos because of our NSF identity numbers (I was W-007, so cool)—I was treated like a kind of roving reporter, and given carte blanche to go anywhere the scientists were going. So as my weeks down there passed, Cape Crozier stayed high on my list, and my hosts kept an eye out for opportunities to team me up with someone else going there. Meanwhile I said yes to any invitation I got from science teams in the field. I visited the Dry Valleys, the South Pole, Shackleton Glacier and Roberts Massif, and the top of Mt. Erebus. Because of the weather, I never knew three days in advance where I was going to be next. It was glorious fun.

Then finally came a day when a helicopter operated by a New Zealand air force crew was going from McMurdo to Cape Crozier, ferrying a team of nematode scientists out to "hunt worms" as the scientists put it. They were happy to add me to their trip, and to try to find the rock shelter left behind by Wilson and his men.

So I joined "Diana/Ross and the Wormherders" (I still have the T-shirt), and the Kiwi crew helo'ed us out to Cape Crozier. When we got there we flew around over the south slope of the cape for quite some time, trying to spot the rock shelter on the ridges below. But Cape Crozier is big, with many short black ridges dropping down its white flanks, and I didn't have a GPS location for the rock shelter. GPS was so new in 1995 that I hadn't even thought to look into this. Possibly I should have; I had spent time at the South Pole with a roving GPS expert, whose device filled a backpack and weighed 80 pounds. We had spent a very cold hour trying to GPS the current location of the South Pole, failing to do so because his device wasn't programmed to register 90 degrees, and could only get us to 89.99. It hadn't occurred to me that a helo would have such a bulky device as Bjorn's, but it was the pilot who asked me about it, so maybe it did.

Anyway I had no coordinates, and we couldn't see the rock shelter from the air, and then wind struck from the south so hard that we flew to the penguin scientists' hut on the north slope of the cape, a little orange plywood box of a hut, where there was a helo landing area. We landed there to wait for the wind to relent.

After a couple of hours there was a lull, and we made a try to leave. We took off and headed north toward Cape Tennyson with the idea

that we would make a complete circuit of Ross Island, and thus get back to McMurdo without fighting the wind. But soon a low cloud bank blocked our way. The co-pilot was flying the helo, and he said to his commander, "You don't want me to fly into that do you?" After a pause that went on a bit too long, the commander said "No," and we quickly turned around and headed back toward Cape Crozier, fighting stronger and stronger headwinds. It was an open question whether we would be able to land again in such a wind, and looking down, we saw that the island on its east side consists of a steep slope of snow dropping into black water—in which, to top things off, we spotted a pod of killer whales. During the next fifteen minutes we were all silent. Finally we approached the penguin hunters' hut, and the commander told his co-pilot to land; it would be good practice, he said. I may have not been the only passenger thinking this was not really the moment to be practicing things, but the co-pilot stuck the landing and we trooped up to the penguin hunters' hut dragging our big orange emergency bags. After that we spent about thirty hours in and around that little hut, eating our emergency rations and thoroughly enjoying ourselves. One young woman from Bishop, California found a sheet of cardboard and spent a couple of hours sledding down an icy slope toward the Ross Sea. The bunk beds inside the hut had the most clapped-out mattresses I've ever seen, and I spent some time reading a sci-fi paperback left behind called *The Space Egg* by Russ Winterbotham (not good), playing cards, and learning from Ross precisely where the Indian tectonic plate underlies the Asian plate. Then the wind died and we flew back to Mactown. Taking another look for the Wilson rock shelter was definitely not on the itinerary.

So that was the one that got away, as far as my 1995 trip was concerned. I still featured the rock shelter in my novel *Antarctica*, and figured that some things in life just aren't meant to be.

So matters stood until some time in 2012 or 2013, when I met Chris Liedel, at the time head of National Geographic magazine, and soon after that, head of the Smithsonian Institute's media wing. Chris was great; we shared a lot of interests, including archeology, and our kids were about the same age. A few months later I had dinner with him in Washington DC, and during that meal he asked me to write something for Smithsonian magazine. I explained I was a science fiction novelist and didn't know how to write magazine articles, which is true. But later in the meal Chris said, But Stan, if you *were* a non-fiction writer, what would you write about?

And by a lucky chance Cape Crozier sprung to mind. The one that got away! I told him the story of the Winter Journey, and how I had tried

and failed to visit their little shelter. I could write about that, I said, but of course I'd have to visit it to have anything new to say.

How could you do that? Chris asked.

I explained NSF's Antarctic media program, which helps reporters to get around down there when they have a commission from a major media source.

Consider yourself commissioned, Chris said.

So that was how I got to go back and try again. Thank you, Chris Liedel!

Now back to June 1911. No helicopters; no daylight. Just three men, two sledges, and the coldest temperatures ever endured by human beings, at least since the end of the Ice Age. Even then, I don't think paleolithic people were so impractical as to undertake a long midwinter journey. But who knows. Let's just say, average temperatures for our three explorers hovered around sixty below zero, Fahrenheit. And a fair bit of their gear was made of canvas.

Very soon after the three men took off, it became obvious that hauling sleds through the Antarctic night was going to be harder than they had expected. Darkness itself was a big part of that. Cherry's glasses frosted over, and without them he was nearly blind. That he was in Antarctica at all with eyesight as poor as his had to do with his generous donation to the expedition's finances, but now his severe near-sightedness presented a real problem. The other two men had to always take the lead, but even they couldn't see well enough to avoid crevasses. They had to stay roped together at all times, so that if one of them dropped into an unseen crack, the other two could haul him back up. This worked, and Cherry even claimed that Birdie independently invented the Prusik knot while hanging in a crevasse, which if true is a very impressive example of ingenuity under duress. But even though they could recover from these falls, they were always a rude shock and a gigantic physical effort.

Another problem was that the snow they were traveling over was so cold it failed to cohere, and gave underfoot like sand. Their sledges weighed 380 pounds each, and their runners simply sank into this unconsolidated snow. As they traveled over the Ross Ice Shelf south of Ross Island, they often had to drag one sledge at a time for a short distance, all three of them pulling it as hard as they could, then hurry back to get the other one before a wind came up and blew their tracks away; if that happened, they might lose one of the sledges in the dark, or both. More than once they worked all day in this manner for a total forward gain of less than two miles.

The intense cold also affected them, of course. Their exertions kept them from freezing in their tracks, but it's hard to understand how they avoided frostbite in their hands, feet, and faces. Somehow they managed that, and so they persisted, day after day. Cherry felt the absurdity of what they were doing, he wrote later, but he kept that to himself. He was the youngster, at age 25, and Bowers and Wilson were like older brothers to him, being 28 and 38. Whatever they did, he was going to do.

Their unexpectedly slow pace meant they would be consuming five of their six cans of stove fuel on the trip out. That boded poorly for the trip home, but still they carried on. A three-mile day, a two-mile day; three days stuck in the tent, waiting out a storm; a day when they managed only a mile and a quarter. That's slow going.

Every morning it took them around four hours to break camp. Eat a meal of biscuits and hot pemmican stew while lying in reindeer hide sleeping bags. Leave the bags and muscle into frozen outer clothing, stiff as armor suits. Emerge from the tent into icy darkness and take down the tent. Get all the gear onto the two sledges. Then start the day's haul, always a big relief, as affording a chance to warm up.

Bowers was the strongest of them, and told the others he never got cold feet. Wilson inquired frequently how Cherry's feet were doing, and monitored his own, and when their feet got so cold that he thought they were close to frostbite, he would call a halt to that day's work, and as quickly as possible they would put up the tent, get their night gear into it, and make a hot dinner of pemmican while sitting in their sleeping bags. After that they tried to get some sleep before they got too cold to remain in their bags.

Nineteen days of this routine reduced Cherry to a state of exhausted indifference. "I did not really care," he wrote, "if only I could die without much pain."

Finally they rounded a curve of low cliffs, and saw by moonlight that they were east of Mount Terror. That meant Cape Crozier had to be near. When they spotted a bare black rock ridge to their left, not much higher than the ice shelf they were traveling over, they trudged up it and found a low knob of volcanic rubble next to a flat spot on the ridge. Loose rock and flat bare ground were the two things they needed to build their rock shelter, so they stopped there. Wilson named the place Oriana Ridge, after his wife. Now it's called Igloo Spur, and the little shelter they built there is called the stone igloo, or Wilson's rock hut.

This rock hut was another odd feature of their trip, given that they had a Scott tent with them. But it had been part of their plan all along. It was intended to be their living quarters, which would free up the tent to serve

as a lab for examining and preserving the penguin eggs. In the rock hut they would be able to burn seal or penguin fat in a blubber stove, thus saving the last can of liquid paraffin fuel for the trip home. The walls of the hut were to stand just over waist high, in a rectangle large enough to fit the three men lying side by side, with an empty space at their feet. The doorway was a person-wide gap in the lee wall, and they had brought a length of wood to use as a lintel over this gap. One of their sledges would serve as the hut's roof beam, and they had with them a big rectangle of canvas to use as its roof.

We know they planned this rock hut carefully, because Wilson's diary from before their trip includes detailed drawings of it, with side cut-aways and floor plans. Also, there's a practice version of it still standing at Cape Evans.

This last fact was something I only realized during my return trip to Antarctica, in December of 2016. Very few people seem ever to have noticed this little rock structure, thirty yards east of the big hut at Cape Evans; it's never mentioned in the expedition's many histories and biographies. Also there are quite a few small outlying structures in the area of the hut, so this one seems to have been overlooked, as having no evident purpose. I hadn't even noticed it during my visit to the Cape Evans hut in 1995. But it's there, and it has exactly the same design, dimensions, and orientation as the hut on Igloo Spur.

Only one group seems to have paid attention to it, and figured out what it was: New Zealand's Antarctic Heritage Trust, which has been restoring all the historic huts since 2002. I stopped by their offices in Christchurch on my way south in December 2016, to find out what they could tell me about the rock shelter on Igloo Spur, and as I left I picked up a small pamphlet of theirs called *Antarctic Historic Huts of the Ross Sea Region*. Back in my hotel room, in the section concerning the Cape Evans hut, I found a list of eleven "Points of Interest," with this final entry:

"Although little remains, a stone hut is located about 25m northeast of the hut and was built as a trial by Cherry-Garrard before the famous mid-winter journey in 1911 to Cape Crozier."

I stared at these words, stunned. That very night I emailed the dean of New Zealand's Antarctic historians, David Harrowfield, to see if he could elucidate this for me. About an hour later, which seemed to suggest he has the complete Antarctic literature in his home, he wrote back with a list of four contemporary diary references to this structure, all quoted in full. Scott himself wrote one of these; his entry for April 28, 1911, says, "Cherry-Garrard is building a stone house for taxidermy and with a view to getting hints for making a shelter at Cape Crozier during the winter."

So when I returned to Cape Evans, about a month after that, taken there by my NSF guide Elaine Hood, an expert Woo minder and a lot of fun, this little side structure was the main thing I wanted to see. I hurried to it from our snowmobiles, and saw immediately that it was an exact replica, or rather precursor, of the Cape Crozier shelter.

The Kiwi pamphlet is wrong when it says, "Although little remains." The structure is intact and finished, impressively foursquare and solid. As well it should be, because Cherry took a couple of weeks to build it, in full daylight and comparative warmth, using Cape Evans' endless supply of rocks and sand. Its neat walls are three stones wide and four to five stones tall, and pea-sized gravel and sand fill every gap between the stones, making it effectively windproof. It's a perfectly squared-off rectangle, and drifted snow fills its interior right to the brim.

On Igloo Spur, however, conditions were vastly different. The three men worked in darkness and haste, after nineteen days of exhausting travel. And there weren't many loose rocks on the ridge to build with, nor hardly any sand. The lack of sand had the same explanation as the lack of snow: wind had blown it all away.

This is because Ross Island forms an immense wall, blocking the katabatic winds that frequently fall off Antarctica's polar cap. When these winds hit Ross Island they're forced to rush around it to east and west, compressed to extra speed and density. It's an effect so distinct it's visible from space: the whole of Ross Island is white, except for its west and east ends, Cape Royds and Cape Crozier, which are both scraped to black rock. The three men had inadvertently camped at one of the windiest places on Earth.

So their hut on Igloo Spur ended up having thinner walls than their practice version at Cape Evans, and with no sand to fill the gaps between stones, it was almost completely permeable to the wind. Even after they spread their canvas roof over these walls and the crossbeam of the sledge, and piled rocks on the roof and its skirt, and slabs of ice against its sides, the shelter was still not as windproof as their tent. Once inside it they stuffed spare socks into the largest holes to try to stop the drafts. But there were many more holes than socks.

When this imperfect version of their shelter was nearly finished, they made a day trip north to collect their penguin eggs. Reaching the sea ice from this direction, which had never been done before, turned out to require descending a two hundred-foot cliff. This climb in the dark was the most harrowing technical mountaineering any of them had ever attempted, and although they managed to get down, getting back up the cliff almost defeated them. Cherry, climbing it blind, instructed in every

move by his comrades above, smashed both the penguin eggs entrusted to him. But they made it back to the rock hut with three eggs intact, and the next day they completed the rock hut, and after that was done, erected their Scott tent right outside its doorway, in the lee of the shelter. All was now arranged as they had planned it back at Cape Evans.

Then a big wind hit.

They could only huddle in their shelter while this blast howled over them. Wilson and Bowers rated the wind at Force 11, meaning "violent storm," with wind speeds from 64 to 72 miles per hour. Curiously, both Wilson and Cherry later claimed that they had located their shelter on the lee side of the ridge, a placement which they speculated had caused unforeseen vacuum pulls upward on their canvas roof. They seemed to be making excuses for their shelter's eventual failure. But in fact the shelter sits precisely on the edge of the ridge, where the wind, compressed against the ridge and then over it, would be hitting with maximum intensity. Truly they were in a bad spot.

They lay on their backs in the hut and watch their roof balloon off the sledge and then slam back down onto it. The noise was tremendous. "It was blowing as if the world was having a fit of hysterics," Cherry wrote. "The earth was torn in pieces: the indescribable fury and roar of it all cannot be imagined."

It was their tent that gave way first, blown off into the darkness to the north. This was shocking evidence of the wind's power, because Scott tents, with their heavy canvas and broad skirts, are extremely stable. The same design and materials are still used in Antarctica today, and have withstood winds of up to 145 miles an hour. I'm not aware of any other reports of a Scott tent ever blowing away.

But theirs was gone—the only shelter they had for their trek back home. And their canvas roof continued to balloon up and slam down. As the hours passed, all the stones and ice slabs they had placed on it were shaken off; then with a great boom the thick canvas tore to shreds all at once. Blocks of their wall fell on them, and the ribbons of canvas still caught in the walls snapped like gunshots. They had no protection now but their sleeping bags and the suddenly lowered ring of rock.

In this moment Bowers threw himself across the other two men and shouted "We're all right!"

Cherry wrote, "We answered in the affirmative. Despite the fact that we knew we only said so because we knew we were all wrong, this statement was helpful."

Snow drifted over them and gave them some insulation. Wilson and Bowers sang songs, and Cherry tried to join them. "I can well believe that

neither of my companions gave up hope for an instant. They must have been frightened, but they were never disturbed. As for me I never had any hope at all… Without the tent we were dead men."

Finally, two days later, the wind relented enough to allow them to sit up and cook a meal on their blubber stove. After that they crawled outside and descended the ridge northward, to take a look for their lost tent. A forlorn hope, and yet Bowers came on it almost immediately; it had collapsed on its poles like a folded umbrella, and then fallen into a dip between two boulders and gotten stuck there. "Our lives were given back to us," Cherry wrote.

Not that this was by any means assured, as they still had to get home to Cape Evans, seventy miles away. The irrepressible Bowers suggested they make one more visit to the penguin colony before starting back, but Wilson waved that off and declared it time to leave. They packed one sledge with what they needed, left the other sledge behind, along with everything else not necessary to their survival, and took off.

Forty-six years later, in 1957, the first person to revisit their hut was none other than Sir Edmund Hillary. He was in the area testing snow tractors with some fellow Kiwis, preparing for a drive to the Pole, and as they were based at Scott Base on Hut Point, near McMurdo, they decided to retrace the Wilson team's "astonishing effort," as Hillary described it. A paperback copy of Cherry's book was their only guide, and discrepancies between its map and Cherry's written descriptions caused Hillary and his team to search the broad southern flank of Cape Crozier for quite some time, arguing heatedly over where the rock hut might be. Eventually Hillary pursued his theory by hiking up the ridge now called Igloo Spur, and there he found the site.

Sir Ed expressed surprise that the three men had chosen such an exposed spot, "as windy and inhospitable a location as could be imagined." In his typically understated style, he judged their shelter "unenviable."

He and his companions took most of the objects they found at the site back to Scott Base on Hut Point, and later to New Zealand. There were over a hundred items left behind, including the second sledge, six thermometers, a tea towel, thirty-five corked sample tubes, several paper envelopes, and a Thermos, which the three explorers must have left behind by accident, as it would have been very useful to them on the trip home.

The sledge is now displayed high on the wall of the Canterbury Museum in Christchurch, in a stack of four sledges from that era. You can't really see it. The other recovered items from the rock hut are in storage. Twice now, in 1995 and again in 2016, helpful curators have let

me into the storage area to inspect some of these items. I found it strange and moving to heft their lost Thermos, unexpectedly lightweight, and to contemplate a long glass thermometer that measured from 60 above to 60 below Fahrenheit, with zero right in the middle. On many nights of their trip this thermometer wouldn't have gone low enough to give them the exact temperature.

I was told by the curators in 1995 that for a decade or two the museum had had an exhibit case devoted entirely to the Winter Journey, but then it got taken down. The situation regarding the entire Antarctic floor of the Canterbury Museum is now so old-fashioned and ramshackle that the current curators are embarrassed by it, and hoping that by not improving it incrementally, they might get funding to re-do it all. But with much of Christchurch still devastated by the earthquakes of 2010 and 2011, it may be some time before this happens.

On their retreat to Cape Evans, the three men's sleeping bags became so iced up that they couldn't be rolled or folded without cracking. By day they had to be stacked on the sledge at full length. To lie inside these sleeping bags was to be encased in a leather tube filled with ice cubes, but this was still warmer than staying exposed to the air in the tent. Hauling the sledge was really the only thing that could warm them, so they preferred that to staying in the tent. At first Wilson wanted them to rest for six-hour stretches, but soon he shortened it to three hours; that was as long as they could stand it. They began to fall asleep in their traces as they hauled.

Pulling only one sledge made things easier, but as they ran low on stove fuel they ate less, and melted less snow into water for drinking. They were very close to collapse. But there ahead of them under the stars they could see Castle Rock, and then Observation Hill, two landmark pinnacles on Hut Point, getting closer with every march. So on they went. Twelve hours of hauling, three in the tent, then off hauling again.

In that manner, eight days after their departure from Igloo Spur, and thirty-five days after the start of their winter journey, they crashed back into the Cape Evans hut. Their clothes had to be cut off them.

After they were dressed and cleaned up, they sat down at the hut's long table, and the expedition's photographer Herbert Ponting took a photo of them. This was one of those lucky shots that caught them like an X-ray. Wilson stares into the camera, grimly aware that he almost got him and his friends killed. Cherry appears stunned, the mental trouble that would haunt him for the rest of his life already evident in his wild gaze. Birdie Bowers is knocking back a big mug of something, as if just back from a stroll round the corner.

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"I see now very plainly that though we achieved a first-rate tragedy," Cherry wrote at the conclusion of his book, "tragedy was not our business."

Here he was speaking of the trip to the South Pole. The Winter Journey was just an interlude, a side trip, a lark; when spring came in September, the larger group got down to its real business of making it to the Pole, hopefully before Amundsen and his team. In telling this part of the story, Cherry has to stay loyal to his commander, while also telling the truth as he saw it; the tension of this double bind is tremendous, and often torques the narrative to great intensities of British stiff-upper-lip eloquence.

In the year that followed the winter journey, Cherry joined three trips south toward the Pole. The first was the Polar attempt itself. Sixteen men began this journey, and as they got farther south, teams of four turned back at regular intervals, having done their part to move supplies into position, stocking depots that the final group would use on its way home. Scott chose who continued and who went back, and Cherry was crushed when Scott sent him back with the second return group. It's likely that Cherry still hadn't recovered from the winter ordeal, but both Wilson and Bowers continued on with Scott, so this couldn't have been much of a consolation. In any case, he returned from high on the Beardmore Glacier to Cape Evans, having done his part. He was there when the third group returned, able seamen Crean and Lashly hauling back the comatose Lieutenant Evans from the polar cap itself, in a hair's-breadth rescue that was one of the most astonishing feats of the whole expedition. There should have been four men in that group, but Scott had decided at the last minute to go to the Pole in a group of five, thus wrecking all his logistics. This mistake could have been enough all by itself to doom the final party, although in fact Scott made several other serious mistakes. Even Cherry had to admit it, and more than once: Scott was a better writer than expedition leader. Both Amundsen and Shackleton make him look confused by comparison.

Later that fall Cherry went south again, in a duo with their dog trainer Dmitri. They used dogs to pull more supplies to One Ton Camp, in case the returning polar group of five, now running late, might need them. Cherry even hoped they might encounter the polar party and be able to help them home. But no one appeared during the time they were told to stay at One Ton Camp, and on the day they had been ordered to leave, they did. One of the many ifs that haunted Cherry in the years that followed was the possibility that if he and Dmitri had gone a bit farther south, they might have run into the polar group and been able to save them. When he and Dmitri left One Ton Camp, the three surviving

members of the polar party were only seventy miles to the south. But there was no way to know that.

Cherry's third trip south took place the following spring, with a big group of men who had overwintered at Cape Evans for yet another year. The polar party had been missing all that time, so this group went south only to see if they could find the bodies. And they did—three bodies, anyway, lying frozen in a tent eleven miles south of One Ton Camp. Robert Scott, Bill Wilson, Birdie Bowers.

Cherry returned to England, drove ambulances in the Great War, got sick and was invalided out. He was asked to write the official account of Scott's expedition, but he struggled with that. These days we would say he was suffering from post-traumatic stress disorder; the symptoms are obvious. And it makes sense. But the Great War had made the sufferings of polar adventurers look puny indeed, the death of five men as nothing in the general slaughter. And it wasn't a culture that encouraged expressions of grief anyway.

It was George Bernard Shaw, a neighbor and friend of Cherry's, who advised him to forget about the idea of an official account, and instead plumb the depths of his own story. After several more years of effort he succeeded, creating in the process a prickly ironic style, its bitter intensity leavened with a dash of dark humor. He quoted liberally from his comrades' diaries, so that people like Wilson and Bowers and Lashly became distinct speakers in their own right. Inevitably the book served as his memorial to his dead friends, and though he refrained from expressing his grief directly, every page is suffused with it. In his own diary entries from the expedition, which he sometimes quotes in the book, that grief can pop out: at the end of the entry describing the day they discovered the tent holding the three bodies, he wrote: "It is all too horrible—I am almost afraid to go to sleep."

Earlier in the book, at the end of the chapter about the Winter Journey, he summed up that earlier experience, the great month of his life:

"How good the memories of those days are. With jokes about Birdie's picture hat: with songs we remembered off the gramophone: with ready words of sympathy for frost-bitten feet: with generous smiles for poor jests... We did not forget the Please and Thank you, which mean much in such circumstances, and all the little links with decent civilization which we could still keep going. I'll swear there was still a grace about us when we staggered in. And we kept our tempers—even with God."

Visiting Ross Island now, it's Cherry's book that gives the historic places much of their aura. Seeing them without having read his book would be

like watching a movie with the sound off; possibly interesting, but not the full experience.

Of course now everything about going there is different. McMurdo Station in summer is a busy town of about a thousand people. In 2016, I got there three days after leaving my home in California. I found the big galley in the middle of the settlement just as warm and sociable as it had been in 1995, which was nice to see. There were some changes, modernizations as compared to the ever-more-distant world of the twentieth century; now every dorm room sports a big wall TV, and the galley's operators offer pizza twenty-four hours a day.

New Zealand's Antarctic Heritage Trust has mostly finished their meticulous restoration and stabilization of the historic huts, and they stand in the perpetual summer sun like gorgeous statues. The Discovery hut looks like a pre-fab Australian bush house, which is exactly what it is. Many men claimed it was colder inside this hut than outside it, and chose to sleep on its porch. You can still feel that chill as you walk around inside it.

Shackleton's 1908 hut at Cape Royds, on the other hand, feels as neat as a modern alpine cabin. It overlooks a colony of Adelie penguins, and is often visited by the penguin scientists who camp right next to it. You can sense Shackleton's intelligence and warmth in the design of the place.

Scott's Cape Evans hut is the clear champion of the three in terms of its aura, stuffed as it is with furniture and equipment and clothing and stories. As charismatic and fascinating as the big hut is, my 2016 visit was definitely dominated by my inspection of Cherry's practice rock shelter. By a coincidence of weather and helo scheduling, I saw it the day after I had been out to Cape Crozier, and the sight of it struck me hard. It was so perfect. It was just what you would want. The many contrasts between it and the poor wreck out on Igloo Spur were truly painful to witness, a blow to the heart. Those three men—they had had their plan, and they executed it as best they could. But it wasn't a good plan.

And then there's Cape Crozier itself. The helicopter ride from McMurdo to it takes about an hour, and is continuously amazing. Snowy Mount Erebus steams twelve thousand feet above to the left, and the white expanse of the Ross Ice Shelf extends to the horizon in every other direction. On the day we flew, it was brilliantly sunny. The scale of the space was so huge and featureless that I thought we were flying about thirty feet above the ice, when actually, our pilot Harlan Blake told me, we were at more like three hundred. Shadows of a few small clouds in the distance looked like black paint spilled on the snow.

Eventually we passed Mount Terror, Erebus's eastern spur, and came to Cape Crozier. As we circled the southern part of the cape, looking for the rock hut, we could see streamers of loose snow flying north over every stretch of exposed rock. Clearly the wind was raging yet again. We couldn't feel it inside the helo, partly because Harlan was so skillful, but the evidence was there below us. Maybe it's just always windy here, I thought. We kept circling, seeing nothing like a rock hut anywhere we looked. Maybe this is just meant to be the one that got away, I thought.

Then we all spotted the little rock circle at the same time, right on the edge of the black ridge farthest to the south. Igloo Spur—of course. Coming from the south, they had headed for the first bare rock they saw.

Harlan declared that despite the wind, he could land. I felt both relief and alarm; my memory of the 1995 stick at the penguin hut was strong. And indeed Harlan quickly added that he wouldn't be able to shut down the helo's rotors while he was on the ridge; keeping the blades spinning would allow him to stabilize things against the onrush, and there would be no awkward moments created by the blades slowing down or speeding up. This was all news to me, but it was his call to make. So he flew past the ridge to the north, turned into the wind, dropped below the level of the ridge, then came up and onto it, touching down on its edge as lightly as a dragonfly.

As soon as the helo settled, I opened the side door and jumped down, followed by Elaine. The moment she hit the ground the wind knocked her over. I was staggering northward to stay standing. When she got back on her feet, we ducked out from under the blur of helo blades and headed for the stone ring, about fifty yards away. We had to crouch and lean windward to stay upright. Later Harlan told me his gauges were registering the wind at fifty miles an hour, with gusts of sixty-five. That's about a Beaufort 10. It felt stronger. The roar of it was so loud we couldn't hear the helicopter.

Carefully, getting used to my lean into the wind, I circled the low ring of snow-plastered stone. I tried to see it better through the thin skeins of snow raking over it. Its walls were tumbledown, and nowhere more than knee high. The interior of the ring was half filled with hard runnelled ice, marking the wind's passage through the stones. I spotted one of their socks, still stuck between the low stones of the south wall. Then I saw sticking out of the ice a length of grain-etched blond wood, which might have been their door lintel. Also the frayed feathers of a dead penguin's skin.

The three men would certainly have been jammed together; the interior rectangle of the hut was quite small. From the outside I stepped off four big steps on the short sides, five on the long sides.

Once or twice I paused to look around. The view from the ridge was immense, the sunlight stunning, the wind exhilarating. I tried to imagine keeping your wits about you in a wind like this one, in the dark; it didn't seem possible. Confused and scattered though I was, I still felt sure we were at some kind of holy place. It was a monument to brotherly craziness, a space like no other. The wind brought it home to me, slapping me repeatedly with what they had done: five days here in the howling night, in temperatures sixty degrees lower than the bracing zero now flying through us. It was hard to believe, but there the stone ring lay before us, shattered and yet undeniably real. It had happened. They had done it.

Elaine was circling the ring taking photos, and seeing her I noticed she was frosted with blown snow. No doubt it was the same for me. I gestured to her and she nodded. We returned to the helo. Harlan took off, and we circled the ridge twice more, looking down at it, then headed back to McMurdo. We had been on Igloo Spur for about ten minutes.

Cherry ends his book with these words: "If you march your Winter Journeys you shall have your reward, so long as all you want is a penguin's egg." For a long time I used to think this was a little too pat. Now that I've been on Igloo Spur, I think he said just what he wanted, not just here but everywhere in his beautiful book. The penguin's egg is science, and more precisely, the curiosity that fuels science. It's not about being the first to get somewhere; it's about falling in love with the world, and then going out in it and doing something wild with your friends, as an act of devotion. There's a rock ring on Cape Crozier that says this with vivid force.

Introduction to *In the Sierra: Mountain Writing by Kenneth Rexroth*

I got the idea for this book after Ken Knabb put a lot of Rexroth's writing online, and alerted me to the existence of Rexroth's unpublished WPA camping guide. That was the last piece of the puzzle, as I had admired Rexroth's Sierra poetry for over forty years. Now it looked like a great Sierra book that had never been assembled. I was really pleased when New Directions, Rexroth's publisher for most of his life, accepted the book and published it with a fine cover by Tom Killion. Highly recommended!

Kenneth Rexroth (1905-1982) grew up in the Chicago area, raised mostly by his mother Delia. She died when he was twelve, and his father, who was never much involved, died when he was fifteen. After that he lived as a bohemian youth in the Roaring Twenties, spending his teenage years as a truant anarchist and café intellectual, with summer stints as a horse packer in the Pacific Northwest. At age twenty-two he and his young wife Andrée hitchhiked around the American West, and when they arrived in San Francisco they settled there. "The ocean was at the end of the streetcar line. Down the peninsula and across the Golden Gate, the Coast Range was still a wilderness, and the High Sierras were a short day's trip away… We decided to stay and grow up with the town."

For the next four decades Rexroth did that, becoming one of San Francisco's leading intellectuals. His life was turbulent; he married four times, raised two daughters, and made his living by literature, though he was also at various times a marine union organizer, conscientious objector

working as a psychiatric hospital nurse, salon host, night school teacher, radio personality, and newspaper columnist. Exceptionally well-read, sure of judgment and clear in expression, he made his journalism into a kind of ongoing education in the humanities. He consistently defended classicism and modernism, also Asian cultures, environmental causes, and the erotic and mystical literary traditions; he just as consistently attacked the military-industrial complex, imperialism, and the New York literary establishment. He was always slightly ahead of the zeitgeist, and many aspects of what we think of as California culture were early interests of his. All his activities together made him the single public intellectual most responsible for the character of the San Francisco Renaissance, which is often associated with the Beat Generation and then the Sixties.

In this tumultuous San Francisco life Rexroth always had an enduring island of calm, located on the other side of the state: the Sierra Nevada of California. Like many Californians before him and since, Rexroth took a youthful trip into the High Sierra and fell in love with the place, and for the rest of his life went back as often he could. In almost every summer from 1927 to 1967 he hiked and climbed throughout the southern Sierra, usually taking along rented horses or burros, which allowed him to stay out for a month or six weeks at a time. He also made shorter spring and fall trips, and ski toured and snow-camped in the winter. In the thirties he took a few climbing classes from the Sierra Club; these were also the years he began climbing and skiing in the Sierra with his long-time publisher and friend, James Laughlin of New Directions. In 1937 he stayed in Yosemite so long that his wife Marie had to explain to investigators from the relief rolls where he had gone. During the Second World War gas rationing slowed him down, as it did everyone, but afterward he went to the Sierra more than ever, often renting a cabin at Grant Grove for the month of June, writing there while the snowpack was still heavy, then in August hiking or riding into the high country, usually with wife or daughters. If you were to add all his time in the Sierra together it would come to a total of around five or six years, or in other words about the same amount of time John Muir spent there.

This intense and sustained Sierra experience was crucial to Rexroth, as he often said himself. "I have always felt I was most myself in the mountains. There I have done the bulk of what is called my creative work. At least it is in the mountains that I write most of my poetry… There whatever past emotion and experience I choose to recollect and write down, take on most depth and meaning."

Though no single book of Rexroth's was devoted to the Sierra alone, he wrote about it often enough over the years that a book's worth of pages

accumulated. This is that book; it contains most of what Rexroth wrote about the Sierra Nevada.

The material comes from many sources, and was written and published over a period of about forty years, between 1937 and 1980. His mountain poems form the bulk of the book. Most of these are set in the Sierra Nevada, but there are also some about Mount Tamalpais, where Rexroth used a small sheepherder's cabin as a getaway; then also one or two are about the Rocky Mountains, and one or two about the stars. Together they make one of the most striking and attractive groups in his overall body of work.

The second part of this book contains most of Rexroth's prose writing about the Sierra. Like the poems, these pieces made their first appearance in various places through the years, including Rexroth's autobiographical novel, his newspaper columns, his personal correspondence, and a camping handbook he wrote for the WPA, never published but now online. James Laughlin's few descriptions of his mountain adventures with Rexroth are also included. Together they form an entertaining description of a style of Sierra life common to many Californians in the mid-twentieth century; they also give us some personal context for the poems, making a kind of portrait of the artist as mountaineer.

It has been a real pleasure to gather all Rexroth's mountain writing and find it makes one of the great books about the Sierra Nevada. It can be thought of perhaps as the replacement for Rexroth's lost WPA handbook, but hugely better—something to take a permanent place on the shelf of American literature, somewhere between Muir and Snyder.

Somewhat Lost

I got a request from the editors of slate.com to ponder the question, "Is exploration dead?" This was my response.

Is exploration dead?

Seems like I was doing it just last week.

When my friends and I go hiking in the Sierra Nevada of California, we spend as much time as we can off the trails, wandering the many high basins and canyons that have no trails. It's true that we know where we are when we do this, in a general sense and even quite precisely. If we took along a GPS system we would know even better—at least on a map. But the map is not the territory, as we often say to each other, sometimes gloomily; because even if you know where you are on the map, out on the surface of the planet the terrain may be so difficult, and your line of sight thus so limited, that knowing generally where you are doesn't help when it comes to the question *Where do we go now?*

Because you don't know where to go—always a little shocking—you worry. You pay more attention to space, and this keeps you fixed in time; you live in the moment, feel a frisson of tension, a sense that the stakes have been raised. Even if it only means you have to expend more effort to get where you're going, there is a sharp urge to get to a place where you know where you are. It's a heightened state of consciousness: you're lost!

One sure way to experience this feeling is to walk up Mount Williamson by way of George Creek canyon. Williamson stands a little north of Mount Whitney, and while hundreds go up Whitney every summer day, you'll likely have Williamson to yourself. It is a behemoth, located just to the east of the Sierra crest; Ansel Adams took some great photos of it from Manzanar, on the Owens Valley floor. Because it is 14,385 feet tall, there are people who want to climb it as part of ascending all the peaks in California over 14,000 feet tall; but most of these fourteen-climbers take a class 3 route up the west face. The George Creek canyon route is easier

technically, a comfort to those who avoid class 3, but it has no trail, and the canyon's streambed is filled with willows and alders and thorn bushes. The creek twists like a snake as it rushes downhill, so the cliffs siding the creek keep alternating side to side. Online reports advise where to switch sides, but they all have different suggestions, and when you get in the canyon you find that none of the advice is the slightest help, because you can't see far enough to keep track of where you are. If you had GPS and determined exactly where you were on the map, that still wouldn't help, because no map is detailed enough to elucidate the details of such a landscape at the scale you need to make your decisions. You simply have to eyeball the situation and hike on.

Or crawl. You find out that bushwhacking means not you whacking the bush, but the bush whacking you. It's best to be wearing long pants and sleeves. Some branches are so thorny that the thorns form a surface of sorts, and scrape across your skin without catching—until they do, and then the branch flexes and wraps around you like a snake.

Back and forth you go across the stream, not sure where you are, crawling often. The stream will get you wet if you step in it, but soon you don't care. Up you go, lost much of the time, until eventually you rise, tattered and bloody, into the alpine zone, where you return to something like ordinary Sierra hiking. Mount Williamson then confronts you with a two-thousand foot scree slope, followed by a long bouldery road in the sky, then a bowl to ascend, either rocky or snowy, where you have to use your hands to keep your balance; and finally you emerge onto a broad summit plateau, with only a final short trek up to the true summit. All this took us two days.

At that point, on Williamson's summit, you can see over Mount Tyndall and the rest of the crest of the Sierra—see for scores of miles in every direction, over a wilderness of snowy peaks, with only nearby Whitney a little bit higher. Behind and below you the Owens Valley looks as if you are gazing down on it from an airplane, but the airplane is missing.

Cross-country hikes like this one (but less thorny) exist everywhere in the Sierra Nevada. A lifetime is not long enough to explore all the canyons, basins, ridges, and peaks of the beautiful range of light, and almost all of them are accessible to those with basic walking skills. It's mostly rambling, with a little scrambling if you want it. And yet the terrain is complicated enough that often it's easy to get lost. Frequently there are granite labyrinths created by glacial action, not easy to understand even with map and GPS in hand; it feels like being dropped into a giant's maze, or crossing the knuckles of a giant's fist; no map is good enough to tell you where you are, and it might take you three hours to cover a mile.

This is especially true if you go up in spring, when the range is still covered with snow. We go on snowshoes, as we are not good enough skiers to ski it, as most people do who go snow camping. Either way is great. The trails are under the snow, the range is almost empty of people. It feels like pure wilderness, as if you were in the Yukon or Siberia, or on some unidentified ice planet. Then the weather really matters; you watch the clouds and feel the wind with intense interest, even trepidation.

So, is this exploring? Maybe not. Maybe the only real exploring left is in the interior of Europa, or the clouds of Saturn, or on the surface of Venus, or the far side of the universe. Certainly there is exploration of this sort left, into the truly unknown; though by the time we get to these places in person, we'll know them well too. They will be mapped. But here's my point: if it's unknown to *you*, then aren't *you* exploring? I can only say, in the Sierra it sure feels like it.

Could you do the same in your own local landscapes? I don't know. It seems possible. It might be fun to go see.

Just last week we were crossing from the west shoulder of the Gemini to Upper Turret Lakes, on a broad ridge in the sky, which our topo map showed as smooth. But we could see a drop ahead, blocked by a knob that kept us from seeing how deep the drop was; it could have stopped us, sent us back ever so many miles. And there was a notch up the other side of the drop that looked vertical. Two potential stoppers, and we hurried along that ridge round-eyed, hearts pounding, ignorant of what we would find. It was an ancient feeling, a primate thrill. Exploration was alive.

Naming Mount Thoreau

This essay appears in the book *Naming Mt. Thoreau*, edited by Laurie Glover. The book includes pieces by Glover, Michael Blumlein, Hilary Gordon, Paul Park, Carter Scholz, Darryl DeVinney, Gary Snyder, and others. It was published in 2015 by Artemisia Press, the publishing wing of the Mono Lake Committee, and all proceeds from the book go to the Mono Lake Committee to support their work. Like the Rexroth book, it has a great cover by Tom Killion, and again, I highly recommend it.

The Mount Thoreau collective continues to meet and promote the name, the book, and the Mono Lake Committee. The name now appears in various online websites, including Google Maps and Google Earth. Recently the Bancroft Library at the University of California accepted our first summit register notebook into their archive of California summit register notebooks, which they curate in collaboration with the Sierra Club.

Efforts in support of the name and the book will continue. It's a good excuse to gather a fun group.

Early on a September morning, we drove through hard rain over Donner Pass. In Reno the skies cleared, and we headed south on Highway 395, which runs under the eastern wall of the Sierra Nevada, one of the greatest escarpments on Earth. Paul Park, Gary Snyder, and I were on our way to a trailhead called North Lake, west of Bishop, California. The plan was to rendezvous late that afternoon at a high Sierra lake and camp there that night. Then the next day some dozen of us would ascend a peak and name it "Mount Thoreau."

Question: Why do you want to climb "Mount Thoreau"?

Answer: Because it isn't there.

California's Sierra Nevada is about the same as anywhere else when it comes to place names, being the usual mix of inspired and clichéd. There are some native American names left, beautiful and resonant: Tuolomne Meadows, Tehipite Dome, Yosemite Valley. Much more common are the names of early settlers. Every Tom Dick and Harry is up there: Mount Tom, Dick's Peak, Harry Birch Springs. Also wives and girlfriends: Lake Lois, Lake Doris, Lucy's Footpass. It's like everywhere else in that regard.

There are also some evocative names from the years of nineteenth century exploration. There is the Enchanted Gorge, a steep difficult cleft that drains the Ionian Basin by passing between Mounts Scylla and Charybdis. There is a Gorge of Despair; also an Inconsolable Range; also a peak called The Black Giant. Famous scientists of the time are well-represented, many of them surrounding Evolution Basin, where peaks are named after Darwin, Wallace, Huxley, Fiske, and so on. Some names from this crowd look questionable now, as the scientists honored held ugly opinions: there's a Mount Spencer, a Mount Haeckel, a Mount Agassiz. Another slightly questionable set of names surrounds Pioneer Basin, which is ringed by Mounts Crocker, Hopkins, Huntington, and Stanford—so really it should be called Robber Baron Basin.

In any case there are many commemorative names up there, good or bad; but nothing is named after Henry David Thoreau. Not a single Sierra peak, creek, or pond is named after the great American nature writer, the man whose books inspired John Muir, and helped to create the very preservation movement that saved the Sierra Nevada as wilderness. Goethe, but no Thoreau? Tom, but no Henry? It seemed an oversight, a mistake, even a little crime. A little intellectual crime of omission.

And there on the north wall of Piute Canyon, which drops precipitously down the eastern escarpment of the range, is Mount Emerson. Named for Ralph Waldo Emerson, of course. It's a big serrated gray pyramid, reaching 13,204 feet above sea level. And across Piute Canyon from it stands another peak, somewhat lower than Emerson, but much more gnarly and interesting. Yes, the two peaks have much the same relationship the two men did, not just in size and aspect but in position, being close to each other but separated by a huge gulf of air. It was just like that in Concord. On the maps, the southern wall's mountain is called Peak 12,691.

Snowshoeing down Piute Canyon one day in the spring of 2008, I looked up and saw these two peaks forming a matched pair, an immense gateway, like Scylla and Charybdis in the Ionian Basin, and I shouted to my companions Oh my god! It's Mount Thoreau!

Used to my mountain babbling, they nodded and hiked on.

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That would have been that, but some of my friends are good at organizing things. And there's an ongoing tradition of gathering in the Sierra to celebrate its art and culture, reaching back to the native Americans who summered in the high meadows, and including also the first Sierra Club summer trips, when William Colby or Ansel Adams or John Muir himself might tell a story by the fire, and Cedric Wright often played his violin. Armando Quintero, the administrator of the Sierra Nevada Research Institute at the University of California at Merced, recently organized a couple of excursions like this for the Sequoia Parks Foundation, calling them "Artists in the Back Country." During these weeks a group of artists would stay together in a high Sierra base camp, painting, photographing, walking around, and talking. When I was invited to join one of these ABC gatherings I was dubious, thinking that as a hiker and backpacker I would not like to stay so long in a single place, but in fact I loved it. The people were great, and I got to know the area we camped in much better than if I had just been passing through.

Not long after that, one of the ABC alumni, David Robertson of UC Davis, organized a meeting at SNARL, the Sierra Nevada Aquatic Research Laboratory, just off Highway 395 near Tom's Place. (Same Tom as Mount Tom? No.) This was another great group of people. We saw petroglyphs in Owens Valley, and ascended one of the Mono Lake volcanic cones, and hiked up Rock Creek, and in the evenings we listened to short presentations, and partied. It was a really stimulating combination of being in the mountains and talking about them.

Back in Davis some months later, talking over coffee with the writer and UCD instructor Laurie Glover, whom I had met at the SNARL event, I mentioned my sighting of what I thought of as a potential Mount Thoreau. She said, That's a good idea. We should do it.

Do what? I said.

Do like David's thing at SNARL, she explained. Climb this peak, name it, host a party to celebrate the naming.

Good idea! I said.

This is how actor networks get started: some of the people in them know how to act. David Robertson liked Laurie's idea. Gary Snyder, who had taught a lot of us at UCD in the 1990s, liked the idea. Mando Quintero liked it. In fact everyone who heard about it liked it. Of course it's true that Sierra people need very little in the way of excuses to go up there. The Sierras? Some kind of a thing? Sure!

So a little crowd gathered, and under Laurie's guidance the idea became a project.

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The truth is, you can't just go naming things in the wilderness. Not officially, anyway. The Wilderness Act of 1964 states that namelessness is an aspect of wilderness, and since it passed, new names in wilderness areas have become rare. I had an amiable and enlightening e-mail conversation with a member of the US Geological Survey's Bureau of Names, and he made it clear that new names in wilderness areas are nearly impossible to get approved. There was a bill in Congress a few years ago, for instance, calling for the Sierra's North Palisade to be renamed Brower Palisade, after David Brower. Both California senators backed the bill, but the local congressperson was staunchly opposed: radical environmentalists have already done enough damage to this country, he was reported to have said. In another case, a Sierra peak was recently named for the late Olympic gold medal skier and local conservationist Andrea Lawrence. She lived near the mountain in question, which is one of the criteria listed in the USGS naming process, so the new name was appropriate. A lot of people worked hard for it, and President Obama signed the bill making it happen. Very good. But naming a California peak after a Massachusetts writer, 150 years after his death? Very low probability. Still, people do like to name things, and so it keeps happening, law or no law. The current leading guidebook for the Sierra Nevada, R. J. Secor's excellent *The High Sierra*, includes scores of new names, identified as such by quotation marks bracketing them. Many of these names were made up by Secor himself. "Lane Pass," Secor writes in a characteristic example, "commemorates Ed Lane." It does that well; I can assure you that if you ever cross Ed Lane Pass, you won't be forgetting him. My friends and I now refer to any endeavor we have horribly botched as an Ed Lane Pass. Ah damn, we'll say to each other as we struggle through yet another Sierra mess we have created for ourselves, another Ed Lane! Why don't we ever learn?

And it isn't just guidebook writers making up these names. There was a back country ranger named Randy Morgenson who disappeared one day on the job, and his bones weren't found for several years; there's a good book about him and the search for him called *The Last Season*, by Eric Blehm. Now the Sierra's ranger community is calling an unnamed peak just west of Mount Russell "Mount Randy Morgenson," a really fine memorial. Another example: Mount Darwin is the final peak of a long ridge north of Evolution Basin. The next peak down the ridge is named Mount Mendel, and now the next peak down from Mendel is being called "Mount Stephen Jay Gould." That's a nice tribute, also a kind of visual joke in terms of intellectual history or influence.

These new names get spread on the internet and in guidebooks, and quotation marks are almost always added to the names, to indicate they are informal and not USGS-approved. Maybe if they stay in use long enough they will someday be made official, but there's no rush. In the

meantime the quotation marks have a friendly look, suggesting that names can be informal but still valid, and that ordinary people are keeping their hand in the naming game, as they always have.

So in that spirit, especially in the spirit of "Mount Stephen Jay Gould," which is more of an intellectual tribute than a personal memorial, we proceeded with the plan to name Peak 12,691 "Mount Thoreau."

As we drove south that day, we passed the ridge that marks the northern border of Yosemite National Park. Here in the fall of 1955, Gary had driven Jack Kerouac to climb Matterhorn Peak, as Kerouac later described in his novel *The Dharma Bums.*

The Sierra Club has placed aluminum summit register boxes on many Sierra peaks, and many others have impromptu containers like tackle boxes, Band-Aid boxes, rusty tin cans, and the like. The pages inside these boxes are always covered by names, dates, and lots of exclamation points. But I told Gary and Paul that I had never seen one so stuffed with slips of paper, signed by such an international crowd, as the one I saw atop Matterhorn Peak in 1999. The messages were like *God bless you Jack Kerouac you are the greatest ever*, or *Thank you Gary Snyder we love you!!!* Sitting on that peak reading them and looking around at the immense view, I had been really pleased to think this was a literary monument in the California style—not a statue in a square or a trophy bestowed by a carefully selected jury, but a thing in the wind, created by devoted readers making a pilgrimage.

I wonder if it's still there, Gary said.

A good point. Summit register boxes in the Sierra are going missing at an alarming rate. An effort is being made to chain them to the rocks, but it's unlikely that had been done to the informal box on Matterhorn Peak.

Gary himself had returned to the peak with David Robertson and some others in 1986, and he wrote a poem on top, which he later inscribed on a note card for someone who wanted to take it to the peak and put it in the summit register. That notecard had still been there in 1999, I told him. Whether it was there now, one couldn't say without going again to look.

The notecard had on it, in Gary's calligraphic hand:

"On Climbing the Sierra Matterhorn Again After Thirty-one Years"

Range after range of mountains
Year after year after year.
I am still in love.

Gary Snyder *4 X 40086, On the summit*

For "Mount Thoreau," we were going to take up an old metal card-filing box, an antique that Laurie found in a thrift shop, to serve as its new summit register. Perfect for the job.

We got to the North Lake car campground around three that afternoon, and found some of our companions already there. My hiking friend Darryl DeVinney had driven over from Marin Country, and we agreed that our "legendary early start" had reached new heights of lateness. Gary and David and Jeanette Robertson began to settle in the car campground at the trailhead, where they would spend the night. Others had already started up the trail. There were six different parties headed for a rendezvous in a high basin none of us had been in before, which certainly created the possibility for another Ed Lane Pass. Even when starting together, people can get separated; one trip we started with five people and by the second night we were scattered in four different campsites. So this one's arrangement was rickety at best.

The rendezvous was made even more difficult by the terrain. Once Paul, Darryl, Charlie Schneider and I made our way up to Lower Lamarck Lake and met Laurie and Dick Bryan there waiting for us, we all left the trail and headed west up into the Wonder Lakes Basin, which has no trails in it. It proved to be a bit of a maze, which was not at all unusual or surprising. All high Sierra basins were created by glaciers, whose heavy press of ice had sheared and plucked the basin floors along the granite's fault lines, creating crisscross watercourses very unlike the tree shapes of streambeds cut into softer ground. Giant rock mazes are the typical result, lightly grown over by patches of tress. We found the Wonder Lakes Basin to be one of these, and we couldn't see very far ahead, but we made our way slowly up toward the rendezvous point, which was a particular pond marked on all our maps.

Before we got to that point, we spotted the other parties in our group. They had found a better campsite than our rendezvous pond, and now they waved us over to it. This was lucky in a couple of ways; first, that we had seen each other, and second, that there was any good campsite to be found. Quite a few high Sierra basins are entirely boulder fields. But our companions had found a fairly large dry meadow flanking the pond below our rendezvous point, an excellent campsite. And there was an hour to spare before sunset.

We needed it, because the wind was blasting us, and it took time to put up our tents and find protected spots for stoves. Earlier in the day it had been so windy that Tom Killion had almost been blown off his feet. He and the others in the early group (Michael Blumlein, Hilary Gordon, and Carter Scholz) said that the downdrafts had been striking the pond

so violently that water had been dashed into the air, "until everything smelled like trout." Our little meadow, however, was somewhat protected by the side of a granite bluff, so the wind was slightly baffled.

Around our dinners we got to know each other. Michael and Hilary and Carter had come up from the Bay Area a few days before, and spent some time on the east side. Tom had been out on a solo backpacking trip. Laurie and her friend Dick Bryan, who had come all the way from Australia, had started up around mid-day, and waited for the rest of us at Lower Lamarck Lake. Paul and I had driven down with Gary; Darryl had driven over from Marin County, Charlie from LA. We were missing one group that had left North Lake before us, composed of John Markoff, Leslie Terzian, and Tom Buoye, but we knew they were capable wilderness people with their own gear, and would be all right. So we had a nice evening's dinner in the dusk, and then went to bed.

No one slept much in the noise of the wind. All night it rushed wildly around the basin, roaring and whooshing in an airy chorus. Often we could hear a blast coming for many seconds before it hit us, pouring over rock edges and through pine needles. Our tents were struck from every direction, sometimes so hard there was a palpable slap to the face as air inside a tent was squished. One gust tore Darryl's tent apart, and as he was standing outside it at the time, his air mattress flew off into the night not to be found until the next morning. He had to take refuge under a nest of low trees, in a little John Muir nook, wrapping his sleeping bag in the remains of his tent and toughing it out on a bed of old pine needles. In the morning he emerged grinning: no harm done, and one more story to tell.

Once you give up on the idea of sleeping during a night in the mountains, it can be very restful. If it is clear and not too windy, I dispense with a tent and sleep out. At 11,000 feet above sea level, the stars are simply incredible. I watch them, don't try to sleep, and thus often sleep pretty well. Awake or asleep, in tent or out, a mountainous peace fills me.

On this night, nine of us lay in our high camp, three more were somewhere nearby, three were down at North Lake, and one was hiking through the night by headlamp. Here we were in the Sierra again, awake in the dark and the wind. The feeling of that moment resists expression, has no name. It was the kind of party that even Thoreau might have liked.

Friday morning we ate breakfast and took off. We ascended the north wall of our basin, headed up toward the peak's summit plateau. This was the steepest part of the climb, but it was still a walk-up, with the looseness of the decomposed granite our biggest problem. It was the two-steps-up-one-slide-down routine so common on sandy slopes of this kind. In

general one seeks out the biggest rocks to step on. Even a rock the size of a dinner plate will generally hold one's weight in the tilted sand. The slope was also partially stabilized by a dispersed vertical grove of low pines, so it was mainly a matter of going slow and finding the best footing. Walking poles are a big help for this kind of work, as they are for so much Sierra hiking. We slogged up for about an hour.

When we reached the edge of the peak's little summit plateau, we sat for a while and watched Chris Woodcock catch up to us. Chris often takes night photos in the Sierra Nevada, very long exposures on color film, making for uncanny results. He had hiked all night by the light of his headlamp and taken photos of the peak at dawn from a vantage point across the basin. Despite his big backpack, he was moving fast.

After he joined us, we headed west and up to the peak. There was a little scrambling to be done near the top; the rocks got bigger, but they were more secure as well, so ultimately it was a bit easier than the sidewall of the basin. There was less and less rock and more and more air, so a surge of adrenaline helped in scrambling up the last broken tilt of speckled granite.

It was a big view. California's Central Valley was visible to the west, filled with thick clouds like smashed thunderheads. To the north across Piute Canyon we had a good view of Mount Emerson's gray serrated south face, and the red Piute Crags that extend eastward from it. Looking east over North Lake to the Owens Valley, we could see across to the White Mountain range. To the south stood Mount Darwin, and to the southeast, the Palisades. Directly below us to the south was our camp; below us in the other direction we looked down on Humphreys Basin, a giant expanse of rock, sloped like the roof of a church.

There were ten of us on top. We left our new register box on a flat spot near the highest point. The notebook inside it had been signed first by Gary ("I send these people up from North Lake") and then David and Jeanette, down at North Lake; those of us on the summit signed it there. When the box was secure under a big rock, Chris arranged a group photo. Then we sat for a while longer, looking around. As Gary writes in *Danger on Peaks*, "Snowpeaks are always far higher than the highest airplanes ever get." When you're up on a mountaintop, you see what he means.

The descent was easy. You reverse what you tried for going up and aim for the sandiest places in order to glissade down. There's time to look around and think, and for a while as we dropped, I considered what Thoreau himself would have thought of our project.

I doubt he would have approved. For him California meant the Gold

Rush, which he considered a stampede of desperate and confused people. More generally, he often said that traveling was a mistake, an attempt to escape a self that can never be escaped. "I am much traveled in Concord," he replied waspishly to someone who encouraged him to see the world. So, a plaque at Walden Pond, maybe. A peak on the far side of the continent: no way.

But as I glissaded down the slope, it seemed to me also that a part of him might be pleased by our gesture, simply as an indication that his books had gotten read. Recall that when he died, most of the first edition of *Walden* was in boxes in his basement. It looked like his books were going disappear like pebbles thrown in a pond. That they became famous, and are often loved, might surprise him, but would surely please him, too. Why not?

Also, during his travels, limited though they were, his few mountain encounters excited him. His vivid description of an ascent of Maine's Mount Katahdin is one of the most famous passages in American literature, a wild attempt to express the inexpressible.

Then also there is a very unusual entry in Thoreau's journal, recording a dream he had about a mountain. It's part of the entry for October 29, 1857, and begins, "There are some things of which I cannot at once tell whether I have dreamed them or if they are real." After a paragraph discussing the phenomenological status of what we might call the hypnagogic state, he writes:

> "This morning, for instance, for the twentieth time at least, I thought of that mountain in the easterly part of our town (where no high hill actually is) which once or twice I had ascended, and often allowed my thoughts alone to climb I now contemplate it in my mind as a familiar thought which I have surely had for many years from time to time, but whether anything could have reminded me of it in the middle of yesterday, whether I ever before remembered it in broad daylight, I doubt."

He goes on to describe this mountain he has dreamed of so often, and notes that it is located "where lies the Burying-Hill," and adds in a footnote, "which makes it the more singularly symbolical." Indeed; there are two ways up and down this mountain, for instance, one through a dark wood, another through a sunny pasture. He describes these paths, and writes, "Why is it that in the lives of men we hear more of the dark wood than of the sunny pasture?"

Then he describes his own climb of this dream peak:

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> "I steadily ascended along a rocky ridge half clad with stinted trees, where wild beasts haunted, till I lost myself quite in the upper air and clouds, seeming to pass an imaginary line which separates a hill, mere earth heaped up, from a mountain, into a superterranean grandeur and sublimity. What distinguishes that summit above the earthy line, is that it is unhandselled, awful, grand. It can never become familiar; you are lost the moment you set foot there. You know no path, but wander, thrilled, over the bare and pathless rock, as if it were solidified air and cloud... It is as if you trod with awe the face of a god turned up, unwittingly but helplessly, yielding to the laws of gravity."

Following this eerie passage, which sounds a lot more like someone traversing the Sierra Nevada of California than anywhere in the vicinity of Concord Massachusetts, he added a poem rehashing the experience and reflecting on what it might mean. As good a prose writer as Thoreau is, he is almost exactly that bad a poet, and for the most part he gave up writing poetry in his youth. But here he tries again, and says of his dream mountain:

> "It is a promised land which I have not yet earned"

This is a little sad to read. If the dream mountain was something inside him, as obviously it was, then maybe it could be taken to be a symbol of the journal itself, a veritable mountain of pages. This project, the core of his life, always interesting, frequently incandescent, is one of the greatest books ever written. Surely he had earned the right to ascend it, having built it.

Possibly he sensed something like this, for near the end of the poem he writes,

> "It is a spiral path within the pilgrim's soul
> Leads to this mountain's brow"

It would have been a comfort to him to know he was on that path, but how could he be sure? His books failed to sell, and his journal wasn't published until 44 years after his death. Near the end of his life, knowing he was dying, he built a stout cedar box to hold the journals, as if building his own coffin, and he gave the box to his sister for safe-keeping. He could never know what he had accomplished. But we know. So we named a peak for him. Not for his sake, but for ours.

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Back in our high camp we packed up, ate lunch, took off, and immediately got lost in the rock maze. Everyone had a different opinion concerning the best route, which often happens, but seldom are there as many opinions as there were on this afternoon. Despite that we blundered down to the Lamarck Col trail without much loss of time, and dropped quickly to North Lake, where we rejoined the others and drove to Valentine Camp, one of the University of California's field research stations, near Mammoth Lakes.

There we finally gathered as one group. We ate dinner in the biggest cabin and got to know each other. No one there knew everyone else, as friends had invited friends who had invited friends. There were twenty of us now, and it was a fun evening, a mixer. On hand were Michael Blumlein, Bridget Breen, Isabella Breen, Dick Bryan, Tom Buoye, Darry DeVinney, Laurie Glover, Hilary Gordon, Tom Killion, John Markoff, Paul Park, Armando Quintero, David Robertson, Jeanette Robertson, Kim Stanley Robinson, Charlie Schneider, Carter Scholz, Gary Snyder, Leslie Terzian, and Christopher Woodcock.

The next day some of us drove around Mammoth in a light snow, visiting the Sierra crest and Devil's Postpile, which is a twisted mass of hexagonal basalt columns. The top of the columns were so smoothed by glacial polishing that the area looks like a parquet floor.

That night we reconvened at Valentine, and after another dinner we interrupted the party to celebrate Thoreau with some show and tell. Thoreau hated parties, so we didn't make a big deal of it, but despite that, or maybe because of it, after a while it began to feel a little bit like it had on the mountaintop. It was Paul who started this, another New England writer and outdoorsman, reading the famous Katahdin passage with just the mix of precision and barely caged emotion that Thoreau himself so often displays. After that we were slightly electrified, and the other talks kept that going. Michael spoke of Thoreau's youthful self-righteousness, so similar to ours, and then of his respect for other forms of life, illustrating this by reading the part of *Walden* that describes the battle of the red and black ants. Dick then offered an affectionate and funny analysis of Henry's personal economics during the years at Walden Pond (his laundered costs included his mom doing his laundry). David spoke of him as a "semi-religious" writer and talked about how Gary's poetry also had that quality. Laurie sang a ballad she had written that day about our trip, and we joined in on the chorus, seriously mangling the tune. Mando told us of his meeting with some of John Muir's descendants, and the feeling of reading some of Muir's private papers, including a childhood primer of Muir's that had scrawled on its last page, *Tomorrow we're gone to America.*

Darryl mentioned that Thoreau too had named Thoreau, so to speak, as at birth he had been christened David Henry Thoreau. Tom Killion showed us images of his Sierra woodblock prints, so startling in their clean color and line, their beauty and rightness. Gary read some new poems, including a wonderful one about Otzi the ice man and what he might have been doing as he attempted to cross that pass in the Alps 5,000 years ago. Chris showed us a selection of his night photos, in which the abstract forms of the Sierra resemble immense ruins. I finished by reading the journal entry about the dream mountain, and at that point, hearing Thoreau think about the meaning of mountains was like having him respond to what we had shown or said or sung.

After that we went back to partying. We had made our contribution to the long tradition of mountain campfire storytelling. As Gary's poem reminded us, the tradition at this point is thousands of years old.

Sunday we cleaned the place up and drove to Lee Vining, where Gary headlined a benefit reading and book sale for the Mono Lake Committee. The crowd in attendance was larger than the entire population of the town.

Those of us still around that evening sat under the portico of our little motel in a light snow, drinking leftover wine and eating crackers and cheese. At science fiction conventions we call this the dead dog party, and as often happens, it was very relaxed, very pleasant. Later we ate a proper meal at the town's roadside diner.

Michael and I returned after dinner to chat in the diner's bar. Thoreau has a magical personality, Michael observed at one point. He casts a spell. People think they know him because he has a reputation, but unless you read him, or read him again, you really don't. One of the great things about this weekend has been reading him again. That was what made last night so special—Paul brought him back, and after that the thing just took off! We went transcendental!

On that note we closed the bar: ten P.M.

Monday we drove home.

Hopefully the name "Mount Thoreau" will stick to Peak 12,691. It will if people like it. And maybe they will. Thoreau was a small-town guy, a bachelor who took odd jobs, lived mostly with his parents, and spent much of his time wandering in the woods. His was an ordinary life, a common American story. But he paid attention to his neighbors and his neighborhood, and wrote down what he saw in prose so precise and expressive that reading it is like proof of concept: ah yes, language works. We can speak to each other, even across the centuries, and get something across the gap.

Surely this jump from mind to mind has to do with naming things. All our nouns are names, and often we name things that are huge or various or intangible. We try to name everything.

Of course that includes our surroundings. In the Alps every big boulder has a name, and it's the same anywhere people have lived for a long time. It was that way in the New World, too, but we forgot the names the first peoples used, or never knew them.

Now we've decided to stop putting names on wilderness places, even though wilderness itself is a name we've made up. For the most part I like the idea of wilderness, and the decision to keep it largely nameless. Many times we've crossed a Sierra ridge in the late afternoon and looked down on a remote trailless basin, sunlight banging off nameless lakes, surrounded by nameless peaks, and it does feel wild, as if we were exploring some new empty planet—or as if we were the first people to walk into the New World, twenty or thirty thousand years ago. It's a thrilling feeling.

But in this case I think the distinction of the name is worth the loss of the unnamed. Emerson and Thoreau were friends, and together they changed us. Now their two peaks form a gate like the Pillars of Hercules, marking a way into a certain kind of American reality, as well as a bit of Sierra backcountry. *In wildness is the preservation of the world.*

Thoreau's journal, which so often names things, has been criticized for becoming too particular, too concerned with birds and bugs and plants. He changed, some say, from a great transcendentalist to just another citizen scientist. It was not a change, but a sharpening of focus; writing the world became his devotional practice. Now his name stands for that kind of worship.

Kistenpass

During our last summer in Zürich I tried to get up into the Alps as often as I could. I spent many evenings hovering over a plastic three-D map of Switzerland set flat on our dining room table, getting a helicopter view of the miniaturized mountains. Everything looks possible when the scale is that small. I was searching for likely day trips in the pattern of my Lötschepass crossing, which meant using the massively overbuilt Swiss transport system of trains, buses and cable cars to get to a high trailhead, hike over a pass to some other high trailhead, and return on public transport that same day.

Evening spent like that, deep in my early version of Google Earth, would send me to bed dreaming of potential hikes, so that I would sleep poorly, and wake at five to call the national weather service for the day's forecast. Very often the recorded female voice would report rain in every region, but on some lucky mornings she would announce in a cheery tone that it was going to be "schön" somewhere I wanted to go, and I would throw my windbreaker and a topo map and water bottle into my daypack, and say good-bye to Lisa as she prepared to leave for her lab. I'd hurry down to our tram stop still eating a pastry, and tram down to the Zürich Hauptbahnhof to catch the first train leaving in the direction I wanted. I no longer bothered to check train schedules, having learned to trust the Swiss to link all elements of their transport in a dense network of daily movement. On this day as always I barely had time to buy a ticket and a sandwich and chocolate bar before I needed to get on the express for Chur. At the stroke of six A.M., before I even had time to find an empty seat, we were off.

By seven-fifteen we were in Chur. Quickly I found my next train, which was going to take me up the valley called the Vorderrhein, the watershed of the headwaters of the Rhine River. This train proved to be made up of little old cars, set on a narrower track than normal. I didn't recognize this might represent a problem for my plans, and read with

interest what I could of a poster describing the history of the Rhenischer Bahn, a company that had laid its tracks in the 1860s, and only later gotten connected with the larger Swiss system, keeping however its narrow gauge. I boarded one of the little passenger cars and was pleased to see it was a well-preserved antique, with leather seats and hand-painted trim in typical Swiss chalet style.

Rolling westward out of Chur, I quickly learned that the Vorderrhein was an immense glacial valley, with the classic U shape, and a particularly deep post-glacier river gorge scoring the bottom of the U. This was the Rhine itself, snaking from sidewall to sidewall so that the little train had to cross bridges and viaducts, go through tunnels, and struggle up sharp curves. It seldom got up to fifty kilometers an hour, and was often much slower. And it stopped at every one of the tiny stations along the way. So even though my destination, the village of Danis, was just sixty kilometers east of Chur, it was still going to take about twice the time it had to traverse the hundred and twenty kilometers from Zürich to Chur.

Well, nothing to do but sit back and watch the scenery. It wasn't even eight o'clock yet, so I had some time to spare.

The other passengers in my car were conversing in what I assumed at first was German—except it sounded Italian. It sounded as if they were arbitrarily mixing German and Italian, and eventually I realized it must be Romansch they were speaking, the fourth official language of Switzerland, which I had read about but never heard. The Swiss had made it their fourth official language during the height of Hitler's talk of Aryan supremacy, and the history of Switzerland I had read was obviously proud of this small rebuke to his racism. About 50,000 Swiss were said to speak it at home, with 200,000 more in Italy and Austria. Despite these small numbers, I had been shown Romansch science fiction novels published (with the help of state subsidies) in handsome hardback editions of five thousand. But I had never heard the language spoken, and now it was a pleasure to listen to it as I looked out the window and tried not to get impatient at the many stops. Just throw German and Italian in a blender, I decided, and you would have the sound of it exactly.

We passed under Flims, the big town of the valley, which was perched over us on a broad bench on the north slope. I had read that the entire bench was the remains of a single immense landslide. This landslide had been dated to about twenty thousand years before, after the most recent Ice Age glacier had retreated upvalley. It was the biggest identifiable landslide in all Switzerland, and clearly the Swiss were pleased to have been able to set an entire town on it.

An hour after passing under Flims we stopped in yet another tiny station, and this time everyone got off the train. I didn't understand

until a conductor came through and conveyed to me, in German I could barely understand, that I too had to get off. Some kind of problem, it was clear—Erdrutch, I heard him say, which sounded like earth rush. Another landslide!

The conductor nodded at my look of comprehension. He then seemed to be telling me that a postal bus would carry all passengers past the blockage to the village of Trun, where another train awaited us.

But I didn't want to go as far as Trun, I told him awkwardly. I wanted to go to Danis, and then up the valley wall to Breil, where a cable car would take me up to the alps below Kistenpass.

The conductor nodded and led me off the train to a schedule posted on the station wall. Apparently I was in Tavanasa, right next to Danis, and a bus would be leaving here for Breil at noon.

While I was still deciphering all this the conductor got on one of the postal buses carrying the train's passengers, and they all drove off. The train itself backed down the valley and disappeared around a bend. I stood alone in the empty station of Tavanasa, five hundred meters below Breil, and two thousand meters below Kistenpass itself. It was now ten A.M., and I had thought I would be in Breil by nine. And the noon bus wouldn't make it there till one.

I decided to run up the road to Breil. I was only carrying my daypack, and running would be my only chance to get anything like back on schedule. So I began to jog.

Up the road I ran. Quickly I broke a sweat.

Very soon I saw that in this part of the great valley the northern wall of the Vorderrhein was steep but smooth, and on such slopes the Swiss like to grade their roads very gently, in long traverses and tight hairpin turns. At every switchback I could look down on the one below and see that a run of perhaps half a kilometer had netted me a vertical gain of about twenty-five meters. A quick calculation suggested that although as the crow flies it was only two kilometers from Tavanasa to Breil, as the Stan ran it might be more like fifteen kilometers, maybe twenty.

I began to hitchhike.

I continued to walk uphill, and jogged from time to time, but whenever I saw a car coming up the road I turned around and stuck out the old thumb. I had hitched a lot in my twenties, but never in Switzerland, and trying it felt a little crazy. Most of the cars that passed me were filled with guys in their Swiss Army uniforms, and they stared at me in a way that made it clear I was right to feel crazy. Their looks made me wonder if there was a regulation forbidding Swiss men on Army duty from picking up hitchhikers. If there were, I was out of luck; compliance with regulation

was a fundamental part of the Swiss character, as I had learned on many occasions. One time, for instance, I was playing American football with my Swiss baseball teammates and three or four Americans, a pick-up game at the big Zürich Sportsplatz where we played baseball, and the Americans were gathering the huddles and calling plays that degenerated into chaos the moment the ball was snapped, lots of mayhem that was never allowed in soccer, so that everyone having a blast, except suddenly all the Swiss quit the game and started walking off the field. When asked what was up, they explained that it was six P.M. and the Sportsplatz closed at six, every day, even in the summer when the sun was still halfway up the sky. We Americans were amazed at this, and suggested we continue to play anyway, as it was a stupid rule and there was no one there to close the park, or even notice it was being used. But this was inconceivable to the Swiss guys, they just shook their heads and kept on walking, until one particularly rowdy American named Richard started shouting,"What? What? What is this? What kind of Nazi shit is this?" I thought the Swiss guys might get angry at that, but they only gave him the same cold look that I was getting now from the guys in the cars zooming by, a look immensely distant, as if from a world no non-Swiss could ever understand.

As I trudged up the road I recalled a Swiss friend trying to explain that world to us, one night after dinner. Every year on the night before Christmas, she told us, Sami Claus came to the door of every home in Switzerland, accompanied by his sidekick the Böögen, a tall creature draped in a big black bag and carrying another black bag in his hands. Sami Claus would then consult with the parents about their children's behavior in the previous year, and the parents would produce an account book they had supposedly been keeping to record their kids' behavior. If the children were reported as being good, then they would get a gift from Sami Claus; if they had been bad, the Böögen would snatch them into his bag and take them off never to be seen again. The children were brought to the door to witness all this, and the youngest ones believed it was real. "And that," our Swiss friend concluded, "is why I hate Switzerland forever."

So I had given up all hope of catching a ride, and wasn't even turning around to face the passing cars, when a Mercedes slowed ahead of me and came to a stop. I ran up to it; the driver was a woman, and she had two kids in the back seat. I thanked her as I got in, wishing I weren't so sweaty, but she didn't seem to notice. Off we went.

My Swiss benefactor was blonde and good-looking, and seemed capable and sympathetic. In my hitchhiking days whenever women picked me up I pretty much fell in love with them immediately. Now I was remembering how that felt, and kind of feeling it again. She was saving my day. She

asked me politely where I was going, and in my broken German I told her about my disrupted morning, and my plan for the afternoon.

"Kistenpass!" she repeated, surprised. ("Keesh-tee-pahsss!") But, she said, glancing at me as she drove, the cable car above Breil was a ski lift only. In the summer it was closed. Very few people ever hiked over Kistenpass.

That is bad news, I replied.

I began to think I had under-researched the trip. Maybe my method of going out with only a topo and the information I could glean from my plastic three-D map wasn't such a cool thing after all.

The kindly Swiss woman turned off on a side road by a small building called the Hotel Alcetta, still well below Breil. She told me there was a PTT phone booth in the hotel's entry, and suggested I use it to call a taxi that ran out of Breil, and ask it to come down and give me a ride. I thanked her again, and went into the hotel and made the call, and told the man who answered where I was and where I wanted to go. Then I went back outside and started walking up the road again, figuring I would see the taxi coming down for me.

But no taxi ever passed. In desperation I started hitching again. Too bad that woman had not been going to Breil, or hadn't been even more of an angel than she had, and given me a ride all the way.

Then another farm wife stopped for me. I got in her Jeep feeling really fond of the women of the Vorderrhein. I repeated my story, and she too exclaimed "Keee-stee-pahsss!"

By the time I was done describing my day we were in Breil's town square, and she was dropping me off at the door of the tourist office. It looked like a village more devoted to farming than tourism, and the office appeared closed. But the door opened when I tried it, and a surprised young woman looked up from the book she was reading. She too heard out my story. Her English was almost as bad as my German, but between us we confirmed that I had wanted to take the cable car up toward Kistenpass, but that I had learned already it was closed for the summer.

She suggested I call the village's taxi service and ask him to take me up the farm roads above the village—these went all the way up to a dairy that was actually a little higher than the cable car's upper station. The dairy was in fact the real trailhead for the Kistenpass trail. The taxi fare would be about thirty francs, she guessed, meaning about twenty dollars, and the vertical gain, I saw on my map, would be about eight hundred meters. Such a deal! Cheap at the price, in fact, as it would put me back on something like my schedule.

I conveyed this to the young woman, and she called the taxi for me. A few minutes later it rumbled into the square: a big black pick-up truck,

with huge snow tires and radio gear sticking out all over it—a truck that had in fact passed me going downhill as I was walking up from the restaurant. I had been expecting something more cablike, although now that was obviously a silly expectation.

The driver got out and shook my hand. He was a big man wearing blue jeans and a plaid shirt, with thick black hair, a round face, and a cheery manner. He spoke no English at all. I explained in German where I wanted to go, and he nodded and made a gesture: in you go! And off we went.

The steep one-lane road we ascended ran in switchbacks past several of the characteristic farmhouses one sees in the high alps. The taxi driver, whose name was Mario, talked about these houses as we drove by them. His German was amazingly clear to me, probably because he was from Ticino and his first language was Italian. The farmhouses, all enormous, were usually attached to even larger barns, and together they housed both the herders and their herds. Dairy farming at such altitudes was hard, Mario said, but they had been doing it for many generations, and had their system perfected. The green alps themselves were creations of the herders—huge lawns, in effect, cleared of their original load of forest and rock. The centuries of labor necessary to achieve that kind of a transformation were mind-boggling to contemplate. We agreed that it was part of what made the Alps feel strange—both safe and dangerous, domestic and wild—a pretty park that in half an hour could turn nasty and kill you. I mentioned Muir's famous description of California's Sierra Nevada, as gentle wilderness; we agreed that the Swiss Alps could well be called savage civilization.

Passing one of the big barns, I mentioned that I had once hiked by one just as it was being opened up for the spring, and how struck I had been by the sight of the astonished new calves staggering in the sunlight. Mario laughed and said that was one of his favorite sights of spring. They see the sky! he said. For the first time they see the sky, and it blows their mind!

At these altitudes, Mario went on, dairy farming was unprofitable. The government subsidized it, paying more the higher the farm. But it wasn't enough to keep the young people at home. The houses had been built to hold extended families of three or four generations; now they were mostly empty, kept going by husband-and-wife teams and maybe a couple of kids. The homes had become like millionaire's mansions, much too large for their occupants. People thought that would be great, but it wasn't so. It would be sad.

Too much money makes you sad, I ventured.

I wouldn't know, he said with a laugh. I'm very happy myself! I live in a suitcase! I live in this taxi!

He had lived in many places since leaving Ticino, including Zürich. His German was fluent, but he didn't appear to care about or even to notice my grammatical blunders, which were many. As he said when we discussed it, if you get your meaning across, the rest doesn't matter. This thought made me even more comfortable, and I damned the torpedoes and sped full ahead. And I suppose it is also true that I had finally crossed some threshold in my miserable German. Lisa and I had been going to night classes twice a week for nearly two years, and they were finally beginning to have an effect: it seemed I could hold up my end of the conversation. As we continued up the narrow gravel track we talked about Zürich, about what I was doing in Switzerland, about our wives' work, about where he had lived, about Ticino and the Vorderrhein, and about the German Swiss as opposed to the Italian and French Swiss. I confessed that I had been the one to call him from the restaurant below Breil, but had failed to flag him down because I had been looking for a cab like one from Manhattan or London. He laughed at that, said it didn't matter, as we had finally met in the end.

That was the best conversation in German I ever had, and when Mario dropped me off at the dairy barn at the upper end of the road, shaking my hand and taking off with a wave, I was really happy. All those dull classroom hours had finally been put to use!

Not only that, but it was only noon! Between the kindness of the Swiss farm women, and the professional help of the tourist gal and Mario, I was not all that far behind my original schedule. Although looking at my map and the slope above me, it did seem that I was going to have to hurry.

I took off up the trail, and immediately lost it. That's hard to do in Switzerland, where most trails are obnoxiously over-signed and as obvious as freeways, especially across the alps, where they are brown trenches in the grass. But this alp was contoured by many narrow dirt runnels, either cow trails or the erosion patterns left by solifluction, and I had apparently taken off on one of these false trails, until it petered out and disappeared.

Probably I had headed out too low. But it was an easy enough slope, so I traversed up the grass, assuming I would soon intercept the real trail.

It didn't. My traverse began to steepen, and I had to work a little. And apparently it was fly season here. There was only one kind of wildflower to be seen, a yellow thing like a daffodil; and this flower apparently attracted flies. There were hundreds of them, even thousands, even tens of thousands, all buzzing in the air. I had never seen flies in the Swiss Alps before, and these were big ones that liked to land on you and then bite, or maybe it was only an exploratory pinch, but it hurt. I hiked along slapping at my legs and cursing, and cutting a higher and higher line in

hopes of intercepting the trail and then running to escape them. Eventually I turned and hiked straight up the slope, intent on finding the trail as soon as possible. The slope steepened again and I ended up climbing a grassy wall, using my hands to pull myself up from clump to tuft to clump—and here I was only ten minutes into my hike!

Finally I intercepted the trail. It made a decent contour across the slope, as expected, and I did as planned and ran along it to escape the fly zone. But there proved to be a number of little pastures to pass through, and the flies pursued me for a long time, because the little pastures all sported summer barns that were as dirty as any buildings I had ever seen in Switzerland. The Disney spotlessness of the tourist zone and the German Swiss cantons generally had here given way to a grubby working landscape, hot and glary and dusty and flyblown. It looked like a ranch in Nevada.

I turned to look south and remind myself where I was. During the ice ages the Alps were covered by much thicker and longer-lasting glaciers than California's Sierra Nevada, and as a result the Alps' valleys are much steeper and deeper. The high lake-filled basins that characterize the Sierras are extremely rare in the Alps, because they were ground away, leaving only the famous horns, knife-edge ridges, steep green walls, and immense gulfs of air. Looking over the five thousand-foot drop of the Vorderrhein toward Italy, I thought I could see the curvature of the Earth. Well okay maybe it wasn't Nevada.

Turning back to my hike, I ascended a rocky hill and felt as if I were finally getting down to business. It was about one in the afternoon. The trail now began switchbacking, up toward a notch in the ridge above. Granite broke out of the grass, in forms big and small: sand, scree, talus, boulders, bedrock. Soon there was more rock than grass, and the little meadows that remained were filled with the full array of Swiss wildflowers, including moss campion, which is like a pincushion of dark moss stuck by a circle of tiny pink flowers. Moss campion and blue cornflowers were my favorites, and there were lots of both scattered over the dark orange granite, fine-grained and handsome. Yes, I was finally getting up into the god zone.

Soon I was through the notch on the ridge, and crossing a small tilted granite bowl above it, where the rock was half covered with snow. Trail signs pointed to the upper rim of this bowl, which was called the Cavorgia da Breil. The low point of the rim was Kistenpass itself. The pass!

I tromped happily up old snow to the ridge, and was soon in the pass. Up there I discovered, as one often does, that the landscape on the other side of the pass was very different from what I had seen so far. I was looking north along the western side of a long steep ridge, called the

Muttenbergen, which ran to a peak called the Muttenstock, then dipped and continued up again to a peak called the Ruchi. The west side of the Muttenbergen dropped very steeply into a lake called the Limmerensee—1200 vertical meters in less than a kilometer horizontally. The steepness was not continuous, happily, but rather a matter of two cliffs, high and low, separated by a band about the steepness of a church roof, still covered with snow. This snowy stretch was called the Kistenband, and my way forward ran over it. The pitch looked a bit uncomfortable, but given the cliffs above and below, there was no other way forward. Unfortunately the trail lay under the snow.

Well, a line of bootprints in the snow showed me where the trail no doubt ran. I took off and followed them. The Kistenband: it was a good name. I was no longer surprised that a feature like this had a name; I had learned that the association of the Swiss with their Alps had gone on for so long that there were names for practically everything you could name, right down to individual boulders. Ötzi the Alpine Man could have named this band five thousand years ago.

The line of bootprints in the snow ran a little closer to the lower edge of the Kistenband than I would have liked, but the untrodden snow above it was much slippier, so there was no good alternative to following the tracks. The bootprints were only semi-frozen at this point in the day, both slick underfoot and with a tendency to collapse down and to the left. Where the Kistenband ended the cliff fell away so steeply that I couldn't see anything of the lake below, but only knew it was there because of my map, which showed it was a long narrow reservoir, a thousand meters lower. Knowledge of this drop was making the Kistenband begin to seem a little too steep. The bootprints got softer by the minute, and with every step I slid a little down and to the left. Walking poles would have been great, an ice axe even better, but I had not expected snow. It was August 12th, and I was only at 2700 meters on a west-facing slope, and in the Sierras...well, I had already learned the Alps were not the Sierras. Now I was learning it again. All I could do was go slow, and pay really close attention to my footing, staring at the snow under me until my pupils had contracted to pinpricks. Whenever I paused to look up the world had the dim look of a photo negative. The sky looked dark, even the snow itself looked dark.

This went on for what seemed like a long time, but in fact the Kistenband is only about a kilometer long, and my traverse probably took no more than half an hour. But it's a big world at times like that. Every time I slipped chunks of ice clattered down to the left and disappeared over the cliff, and while it seemed likely I would be able to drag myself to a halt if I fell and slipped, it wasn't the kind of theory you want to give a practical test.

So when I came to the widening at the north end of the Kistenband, where the slope lessens, I stopped and took a breather. There was a spur just below me to my left, jutting out over the Limmerensee, and to my surprise a little roof top poked out over the last rock. I walked over and found a tiny shed tucked under the spur. Possibly an emergency hut; but its door was locked, and there were no signs on it. Maybe it was a storage shed for cowherds, or trail crews. In any case there it was. The top of the spur above it was clear of snow, and had a magnificent view; and I was past the crux of the hike, and suddenly hungry. I sat down to eat my lunch, feet kicking over the edge of the rock.

Checking out the next section of my hike, behind me and to my right, I could see that the ridge of the Muttenbergen curled like the top of a question mark, arcing from the Muttenstock to a peak called the Ruchi to another called the Rüchi. Tucked in the curve of the question mark was a snowy basin called the Mutten, filled for the most part by an icy lake called the Muttsee. I could see the trail as a line of bootprints running across the snow covering the rib that held the Muttsee in place, and there on the rib stood a little square dot, black in the piebald mix of snow and rock. My map identified this building as the Muttseehutte, SAC (Swiss Alpine Club). When I got there it would be Kafi fertig time for sure.

Under my feet the space over the Limmerensee looked like an enormous roofless room, long and narrow, with the lake as its blue carpet. The wall on the other side of the lake was a horizontally banded cliff, rising sheer from the water to my own height; above that it broke up and lay back in a wild jumble of snow and boulders, ending in a jagged skyline that ran from peak to peak—from the Vorder Selbsanft to the Selbsanft to the Hinter Selbsanft to the Vord Schiben to the Hinter Schiben. All these names made sense in relation to my vantage point, as if they had been named from there.

The Muttsee and the Limmerensee were both blue, but the blues were very different. The Muttsee was the brilliant turquoise of water lying over submerged ice, under a clear sky. The Limmerensee, on the other hand, was a reservoir, and its catchment basin included two hanging glaciers that added glacial milk to the clearer waters coming in from elsewhere. The resulting mix was the opaque virulent blue of radiator antifreeze.

The reservoir flooded a valley which must have been quite something before it was drowned. The mapmakers had retained the contour lines of the submerged area, turning them blue rather than the usual brown, and these showed what had probably been meadow or forest, or a mix of the two, with the Limmerenbach running down the middle. It might have looked like Yosemite; but this had not stopped the Swiss from damming it. In their drive for electricity they had dammed and drowned many of

the deepest gorges in the Swiss Alps. I suppose you can't afford to regard sixty-five percent of your country as an untouchable wilderness, but I was still a little shocked whenever I saw how relentlessly they have altered their landscape. We've done a lot of it in the Sierra too, but nothing compared to them. No doubt a hidden valley like this one never had a chance.

And yet it was still a great space; and the Muttsee at least was still beautiful. I pulled my Bahnhof sandwich from my daypack, pleased with my lunchtime prospect.

As I began eating I heard a buzz from below, and spotted a helicopter the size of a mosquito, floating just over the antifreeze. It rose in slow spirals, working hard to gain altitude. No doubt it was climbing to resupply the Muttseehutte: I had been at other SAC huts when helicopters flew in with supplies. It was going to be interesting to watch it from this distance.

The helicopter rose in an expanding spiral that used the entire space of the gorge. It took at least ten minutes for it to ascend, giving me a sudden new sense of just how deep the gorge was. It's hard to see vertical distance; the eye has a predilection to see all great heights as about a thousand feet, a foreshortening error that does not go away even when you know about it. Now the helicopter's long struggle was making the real height of the gorge evident.

Eventually it completed its climb and banked in a final spiral that brought it under my part of the cliff. I was going to get a good view of it as it passed me by. I sat on my overlook and observed its two circles of blurred blades, big one horizontal, small one vertical. They are strange machines. The engine noise, which had started as a mosquito buzz, was now a roar. It was really going to pass close to me.

Then it rose to my level and hung right before me, making an incredible racket. It turned toward me, and I found myself looking into its bubble windshield, eye-to-eye with the pilot. He was a black man, wearing mirrored sunglasses and big earphones. I thought he looked American, and waved at him, but his hands were busy and he didn't wave back. I saw his forearms shift on his controls, and the helicopter tilted forward and began to drift straight in at me.

"Whoah!" I said. What the hell? The helo was still closing, the pilot's face was still blank. I scrambled to my feet, turned and retreated quickly onto the spur's flat top. I looked over my shoulder to be sure all was well and was astonished to see the helicopter was topping the spur and turning down toward me, louder than ever.

I bolted up the hill in a panic. The blast of its wind buffeted my back, and in the horrible roar I dared a look over my shoulder, terrified of what I would see—

It was landing on the flat spot behind the spur.

I stopped running. All was suddenly clear: I had been sitting on the edge of his landing pad. It was the only flat spot around. He was bringing supplies to the little locked shed under the spur.

Well of course! I had not fallen into a horror movie after all! I should have been able to figure it out earlier.

I stood there feeling my heart blast the blood through me. All my capillaries throbbed at every hit, and my vision was bouncing.

The pilot killed the engine and climbed out of the cockpit. I walked back down the hill toward him, anxious to apologize for taking so long to figure out what was happening.

He saw me and said something before bending to his cargo door, but there was still lot of noise and I couldn't hear him. I came a little closer to yell that I didn't speak much German, and all of a sudden he straightened up and shouted, "ACHTUNG!"

I stopped in my tracks. He pointed up at the blades still thwacking the air overhead. In that instant I saw that as rotor blades slow down they become visible from the inside out. What I had assumed were the ends of the blades were actually just the ends of their visible part. Looking more closely I saw the faint blur of sky that marked their real ends; the blades were about twice as long as I had thought they were. Not only that, but as they slowed they were beginning to droop, and I was descending onto the flat from the slope above. So the actual tips of the blades, now quite visible to me, were at my head level, and about fifteen feet away.

I turned and walked off. The pilot was busy anyway, and I had lost all interest in talking to him. I got out of there.

Several minutes down the trail I noticed that my half-eaten sandwich was still in my hand, squished into a ribbed tube of dough. I nibbled it as I hiked, and realized after a while that I was too deaf to hear myself chew. I looked back once or twice without intending to. I came to some of the deepest suncups I had ever seen, skidded this way and that on snow that had lost all structural integrity. It didn't matter; I wasn't there anyway.

When I trudged up the final approach to the Muttseehutte I was really ready to sit down and have a Kafi fertig or two, or three. After that I would continue over a nearby rise called the Muttenchopf, and descend to the cable car that would drop me to the road at Tierfed.

The hut keeper was standing on the porch outside his door. He greeted me as I approached: "Grüüüüt-zi!" It was the Swiss greeting at its most Swiss.

He was short and bald, barrel-chested and suntanned, with immense forearms. He asked me where I had come from and I told him, re-entering that zone of competence in German that I had magically occupied

during my time with Mario. The hut keeper asked questions about snow conditions on the south side of the pass, and I described what I had seen, and it was all as clear as could be. I did not attempt to tell him about my encounter with the helicopter, which was beyond my German to express, and so the conversation proceeded well. At one point, enjoying my ability to do it, I asked him how long it would take me to hike over the Muttenchopf, and when the last cable car of the day left Galbchopf for Tierfed.

The question startled him: Why? he asked. Did I want to take it?

Exactly, I said. I did want to take it.

He walked across the porch to me and said very firmly, "Du muss schon gegangen sein!"

You must already gegone to be.

I thought it over; yes, that was what it meant; most of the words were utterly simple, and I knew very well that "schon" meant "already," because that was what I used to yell at my Swiss baseball teammates when they did something good, meaning to yell "schön" like they did, a mistake that had given them no end of amusement before they had finally corrected me. So:

You must already be gone!

"Whoah!" I said. The hut keeper nodded as he saw I understood, just as the train conductor had that morning. He took me by the arm and walked me down to a trail sign just below the hut. In rapid but still magically comprehensible German he told me that the trail that went down to the dam, and then through a tunnel to the cable car station, was a much faster route than the trail over the Muttenchopf—so much faster that it was my only hope of catching the last car, which left at 3:45.

It was now 3:05. I got out my topo map and he nodded approvingly and traced with a thick finger the trail I should take. "Fiertzig minuten," he said emphatically. Forty minutes. And then he stepped back and cried, "Fliegst du!"

FLY YOU! Yikes! No more than five minutes had passed since my arrival, and here I was waving good-bye to the hut keeper and running down the trail, over the lip of the Mutten and down a steep green bowl to the shore of the virulent Limmerensee.

The trail was snow-free, and dropped down gullies and over grassy humps, and most of the time I could run it. Where the trail banked against rock walls there were cable handrails bolted into the rock, and these helped me maintain a good speed even when things got quite steep.

After about ten minutes of this I paused to catch my breath and eat my Toblerone bar, and look again at my map. As soon as I calculated the altitudes and distances involved I took off again, running down the trail faster than ever. Forty minutes! He was crazy! The drop to the lake was

six hundred and fifty vertical meters, and the tunnel looked to be about three kilometers long! No way!

But way. He had said it was possible, and he wouldn't have said it if he hadn't been sure. He had done it. Those Swiss Army guys passing me by in their car could do it, each chased by his own personal Böögen perhaps, but they could. If they couldn't the hut keeper would have told me to forget it, that I should stay the night at his hut,where there would be a radio phone that I could have used tell Lisa what had happened. Then I could have relaxed on the hut's porch drinking Kafi fertig, or just the fertig (cognac), while watching the evening alpenglow light up the Muttenstock. That was a good idea, now that I thought of it, but instead here I was hauling ass down the trail like a Keystone Kop, cursing the Swiss with every leap. Have a nice day in the Alps, I shouted as I plunged. So relaxing! God damn you guys! God damn your cable cars, and God damn you for closing the fucking things eight hours before dark! When you bother to keep them open at all! It was ridiculous! But I was going to do it anyway, and without any Böögens to chase me either—just a determination to get home that night, and because the hut keeper had said I could do it.

So I descended 650 meters in twenty-five minutes, certainly my all-time record (at least until I cut my shin on the Black Giant, but that's another story). I panted along the shores of the radioactive Limmerensee until I was stopped by a cliff that dropped straight into the water. The trail ran right under a black iron door in the cliff.

The tunnel. God damn it one more time. I don't like tunnels. I approached the door and looked at a page taped to it. The printed message, in German of course, had words so long they crossed the whole page. I couldn't understand any of it. Apparently my streak of German had ended in the great exchange with the hut keeper. Fly you! I had flown.

I turned the handle and pulled the door open. There was a light button just inside the door, and when I pushed it a line of bare bulbs came on overhead, illuminating a tunnel about nine feet high and not much wider. There were metal tracks, like tram tracks, laid on the tunnel's stone floor.

I stepped back out into the sunlight and tried to read the sign again. No way. Inside, a simpler note by the light button told me that the lights would stay on for twenty minutes after I pushed the button. Back outside I checked my map again. Yes, the tunnel was between two and three kilometers long. Say a mile and a half. I could run that in less than twenty minutes. And I would have to, not only to beat the lights going off, but in order to get to the cable car station at the other end of the tunnel before 3:45—because it was now 3:31!

I banished my distaste for the tunnel and stepped back inside the iron door and let it clang shut behind me. I hit the light button one more time and started jogging down the stone floor between the tram tracks.

Quickly I was far enough down the tunnel that I couldn't see the door behind me any more. In both directions the light bulbs ran together into faint lines, which eventually disappeared entirely in the gloom. There were leaks in the rock ceiling, and occasionally I ran under little curtains of dripping water; often I stomped through puddles between the tracks. Getting winded, I checked my watch; I had been running three minutes. Probably my initial pace had been a bit fast.

Very low creaks echoed down the tunnel, as if the rock around me was somehow stressed. Maybe by the weight of all that radiator fluid. If the dam were to burst the tunnel would get torn apart. If an earthquake struck it would collapse. I ordered my mind to stop conjuring such unlikely events, but I have a fear of tunnels, and the infinite regress of dim bare lightbulbs in both directions was a strange sight. I kept on pressing the pace, my boots splashing in the puddles, my daypack flopping on my back, my breath beginning to whoosh in and out. My watch showed 3:35; but then I recalled that it was set five or seven minutes fast, to help me keep up with Swiss timeliness—to help me in situations just like this, in fact. So I had a bit of leeway. And hopefully I was around halfway through the tunnel. It seemed to me that I was running at a nine-minute mile pace at the very least, despite my boots. It all should work.

Twice I passed open black side tunnels to my left, the lake side, and I hurried by them and their wafts of cold air, wondering if they ran out to the dam, or under it. Once as a child I had gone with my parents and brother to Parker Dam on the Colorado River, and we had taken a tour through one of the big turbine rooms, and that night I dreamed we had been locked in there by accident and they let in the water and it rushed over us, causing me to wake up filled with a dread so deep I have never forgotten it. There aren't that many dreams you remember your whole life. Now I seemed to be running in that dream, and the empty black side tunnels scared me no matter what I tried to think. I suppose it is true that I am still eight years old in my mind.

Thus when I heard a faint roar behind me I first put it down to morbid imagination and tried to ignore it. Then it got louder and was obviously real. A very definite roar in the tunnel behind me—and getting louder! I looked down at the tracks in the tunnel floor: tram tracks. A tram was coming!

I redoubled my speed. Swiss tunnels are often sized only a few inches wider and taller than the vehicles that pass through them. I glanced over my shoulder, in what was getting to be the day's signature movement, and

saw two pinpricks of light. Little headlights under the string of lightbulbs, quickly growing bigger, filling the tunnel as the roar got louder. I turned and ran as fast as I could.

Suddenly the tunnel widened and split into three. I ducked left, into the widest part of the open area, away from the tracks, and pulled up tight against the wall. An old gray VW van with a bad muffler sputtered past me.

Its driver had not seen me, and he drove on. I took off after him, guessing as I ran that the sign taped to the door at the other end of the tunnel had announced the van's schedule to people wanting a ride. No doubt its last trip of the day was timed to take people out to the last cable car.

The van came to a sudden halt and I almost rear-ended it. We were at the end of the tunnel, it seemed. I had made it in time for the last cable car down.

The driver of the van (he had carried no passengers) turned out also to be the operator of the cable car. I got in the cable car with him, not even trying to explain why I had run the tunnel rather than wait for a ride. He did not seem to be interested in any case. Right before our departure (he was checking his watch to leave at the first second of 3:45), we were joined by an elderly couple in the full regalia of Swiss mountain walking: heavy leather boots, long wool socks, wool knee pants, plaid long-sleeved shirts, suspenders, varnished walking sticks, old leather rucksacks. The man wore suspenders and a jaunty green cap with a feather. The woman's white hair was perfectly coifed. They had arrived just in time because they knew that the cable car would leave just on time.

When they were in, the driver closed the door and latched it, punched at his control panel, and the car jerked out of the station and dropped like a boulder hung on a clothesline. Down we sailed. Tierfed was a thousand meters below, and watching the cliff shoot by I was very glad I had hurried to make the last car. Without it there was no way I would have made it home that night. Now I would.

When, I asked the van driver hesitantly, suddenly self-conscious about my German again, did the bus leave Tierfed for the train station in Rieti?

He stared at me, surprised. Bus? There was no bus.

I stared at him, appalled. I had never heard of such a thing. All the cable cars had bus connections to the nearest station! It was over ten miles from Tierfed to Rieti, there had to be a bus!

The van driver shrugged. No bus. The elderly couple stared at me. I was still sweating from my tunnel run, and in fact I had broken a sweat several times that day, some of them hot, some of them cold. I could taste the salt on my lips, and feel the sunblasting I had gotten; I knew from

past experience that my face would be a flamboyant red, and in the window of the car I could see a faint reflection that showed my hair spiking out as if I had been electrocuted.

So when the van driver suddenly asked the elderly couple if they would give me a ride to the Rieti train station, I blushed an even deeper red. We still had a fair distance to descend, and this certainly put them on the spot. They didn't look like it was their kind of thing, and I was pretty sure they wouldn't have offered on their own. Some Swiss like their Ausländer, but others don't. There were political parties that wanted to kick all of us out, and their membership came mostly from the mountain cantons.

A quick discussion between them and the van driver dove immediately into the deepest Schwyzerdüüütsch: I couldn't understand a word of it. But after a bit of back-and-forth, the husband turned to me and made the offer himself, very stiffly, in Swiss-accented Hochdeutsch. I nodded gratefully and said Danke, at this point the only German word left to me.

We clanked into the Tierfed station and got out. I thanked the van driver and trailed the couple to their car, a big square Mercedes. Gingerly I got in the back seat. The husband drove us down the curving road in a dead silence.

There were so many things I wanted to say, stuck on the tip of my German tongue. Your country is so beautiful. I love the Alps. I'm only going to be here another few months, and I want to see everything before I go. Your transport system is really quite amazing. Although the bus component in this case has let us all down, forcing me to ask for your assistance. A helicopter almost chopped my head off at lunch. It chased me. I'm also scared of tunnels. I thought that VW van in the tunnel was a tram that was going to squish me like a bug. Even without that I was unhappy. I'm sorry you've been forced to do me this favor. I hope I don't smell too much, but I was terrified twice today. That rarely happens even once. If it weren't for the kindness of Swiss women I wouldn't even be here. Your farm wives are so nice. But a lot of you are mean to hitchhikers. And your cable cars stop way too soon in the day. I think a lot of you must have been traumatized by the Böögen, wouldn't you agree? It's a Swiss theory. It explains a lot, you have to admit.

I said nothing. None of it was sayable. I could hear the sentences in a sort-of German in my mind, but I could not make my mouth say them.

In the front seat they were just as quiet. It was too bad, really; we had just spent the day up there in the same mountains, after all. I focused my mind, ignored my insecurity about tense and word choice and sentence order, about whether it would properly be wohin or woher, tag or morgen, die or der or das… I had made so many mistakes. How do you play baseball? You take nine human beings… my teacher had grinned at that

one, he couldn't help himself. But if you got your meaning across, Mario had said, that's all that matters.

Where to today did you wander?

Rüchi, the wife replied.

Rüchi! The mountain?

Yes, the mountain. Rüchi is a mountain.

It was the peak at the end of the question mark, one of those looming over the Muttseehutte.

Wow, I said.

They had gone up there for lunch, she explained.

I got out my topo map, and she twisted around to show me their route. From the cable car they had traversed the Muttenwandli—then climbed the south slope of the Nüschenstock at the end of the question mark—then run the ridge from there up to Rüchi. What they had done was probably harder than what I had done, and they weren't even ruffled. Ah genau, I said as she named every point, genau. Exactly. This was what my Swiss teammates always said when other people were telling them things. It was something like our uh huh, or I see, or yeah yeah, or you bet. Genau: it's a word the Swiss love to say and to hear. It may be the national anthem all by itself.

Pretty? I asked, being careful not to say Already?

They both nodded. Very pretty, the wife said.

Then she said, And where did you go?

Kistenpass.

Keesh-tee-pahsss!

That must be what one always said. Some kind of surprise about it. Well, maybe so. Yes, I said. Keee-stee-pahss.

And was it pretty?

Very pretty. The Alps, I said, are very, very pretty.

They nodded again, glowing with quiet pride, with love. Genau, the husband murmured.

The train for Zieglebrücke was leaving when I walked in the station, and in Zieglebrücke I had to run to catch the Zürich train. My legs were sore. On the Züri train I relaxed. I was going to make it home that night. Zürichsee, Hauptbahnhof, a number Six tram; up the hill, up the stairs, into our apartment, flop into my kitchen chair. It was 7:15 P.M.

"How was it?" Lisa asked. "You look kind of wasted."

I opened my mouth, but nothing came out. I gaped like a goldfish.

She pointed a spatula at me. "Did you have another adventure?"

"Genau."

ZÜRICH

When we were getting ready to leave Zürich I decided to try to leave our apartment as clean as it had been when we moved into it two years before. An employee of the Federal Institute of Technology, owners of the building, would be coming by to inspect the place, and these inspections were legendary among the foreign residents living in the building: they were tough. I wanted to be the first *Aüslander* to make an impression on the inspector.

Certainly this wasn't going to be easy; the apartment's walls were white, the tables were white, the bookcases and wardrobes and bed-tables and dressers and bed frames were white. The sheets and towels and dishes were white. In short practically every surface in the place was white, except for the floors, which were a fine blond hardwood. But I was getting good at cleaning the apartment, and having lived in Switzerland for two years, I had a general idea what to expect from the inspection. I knew the standard that would be applied. My soul rose to the challenge, and defiantly I swore that I was going to leave the place *immaculate*.

Soon I realized how difficult this was going to be. Every scuff from a muddy shoe, every drip of coffee, every sweaty palm, every exhalation of breath had left its mark. Lisa and I had lived here in our marvelous domestic chaos, and the damage proved it. We had put up pictures and there were holes in the walls. We had never dusted under the beds. The previous tenant had gotten away with things, having moved out in a hurry. It was going to be difficult.

Immediately it was obvious to me that the oven was going to be the crux of the problem. You see, once we went over to some American friends to have a home-like barbeque, and the grill was out on the balcony up on the fifth floor in the town of Dübendorf, looking out at all the other apartment blocks, the fine smell of barbequed chicken and hamburger spiralling out into the humid summer sky—when there

was the howl of sirens below, and a whole fleet of fire engines docked and scores of firemen leaped out—all to combat our barbeque. One of the neighbors had called the police to report a fire on our balcony. We explained to the firemen and they nodded, staring coldly at the clouds of thick smoke filling the sky, and suddenly it seemed to us all that a barbeque was a very messy thing indeed.

So I never bought a grill for the balcony of our apartment. Instead I broiled our teriyaki shish-kebob in the oven, and it tasted all right. We use a fine teriyaki sauce, my mother got the recipe out of a magazine years ago; but it calls for brown sugar, and this was the source of the problem. When heated, the liquefied brown sugar caramelizes, as Lisa and her chemist colleagues are wont to say; and so on every interior surface of the oven there were little brown dots that refused to come off. They laughed at Easy Off, they laughed at Johnson and Johnson's Force. I began to understand that caramelization is a process somewhat like ceramic bonding. I needed a laser, and only had steel wool. So I began to rub.

It was a race between the flesh of my fingertips and the brown ceramic dots; which would the steel wool remove first? Flesh, of course; but it grows back, while the dots didn't. Only the miracle of regeneration allowed me to win this titanic battle. Over the course of the next two days (and imagine spending fifteen hours staring into a two-foot cube!) I muscled off every single dot, hour by hour become more and more enraged at the stubbornness of my foe.

Eventually the victory was mine; the oven was clean, a sparkling box of gray-black metal. It would pass the inspection. I stalked through the apartment in an ecstasy of rage, promising similar treatment for every other surface in the place.

I attacked the rest of the kitchen. Food had suffused into every nook and cranny, it was true; but none of it had caramelized. Stains disappeared with a single wipe, I was Mr. Clean, my soul was pure and my hands all-powerful. I put Beethoven on the stereo, those parts of his work that represent the mad blind energy of the universe: the *Grosse Fugue*, the second movement of the Ninth, the finale of the Seventh, and of the *Hammerklavier*. I was another manifestation of this mad blind energy, cleaning in a dance, propelled also by the complex and frenetic music of Charlie Parker, of Yes, "Salt Peanuts" and "Perpetual Change." And soon enough the kitchen gleamed like a factory display model. It would pass the inspection.

The other rooms offered feeble resistance. Dust, what was it to me now? "I am the mad blind energy of the universe, I vacuum under the beds!" Cleaning lint from the vacuum I sliced the very tip of my right forefinger off, and for a while it was hard not to get blood on the walls.

But that was the most resistance these rooms could offer. Soon they shone with a burnished glow.

Now, inspired, I decided to get *really* thorough. It was time for details. I had been going to leave the floors alone, as they appeared clean enough to pass; but now with everything else so clean I noticed that there were little dark marks around the doorways, little dips in the grain of the wood where dirt had managed to insinuate itself. I bought some wood polish and went to work on the floors, and when I was done it was like walking on ice.

I dusted off the tops of the bookcases, up near the ceiling. I put spackle in the nail holes in the walls. When I was done the walls were all smooth, but it seemed to me that I could see a little discoloration where the spackle had gone. A few moments' pacing and inspiration struck: I got some typewriter White-Out from our boxes, and used it as touch-up paint. It really worked well. Nicks in doorways, a place where the wall was scraped by a chair back; typewriter White-Out, perfect.

In the evenings during this week of cleaning frenzy, I sat with friends, drinking and feeling my hands throb. One night I overheard by chance an Israeli friend tell a story about a Swiss friend of hers who had unscrewed the frames on her double-paned windows, to clean the inside surfaces. I shot up in my chair, mouth hanging open; I had noticed dust on the inner sides of our double-paned windows that very afternoon, and figured it was something I wouldn't be able to do anything about. It never would have occurred to me to unscrew the frames! But the Swiss know about these things. The next day I got out a screwdriver, and unscrewed and polished until my wrists were liked cooked spaghetti. And the windows sparkled from all four surfaces. They would pass the inspection.

On the morning of Inspection Day I walked through the big rooms of the apartment, with their tan leather chairs and couches, and the white walls and bookcases, and the sun streamed in and I stood there transfixed as if in the dream of a cognac advertisement, in air like mineral water.

Glancing at the long mirror in the foyer something caught my eye; I frowned; I walked up to it, feeling uneasy as I often do around mirrors, and looked at it closely. Sure enough, some dust. I had forgotten to clean the mirror. As I went to work on it I marveled: you can see the difference between a dusty mirror and a clean one, even when—staring at the paper towel in my hand—there is only enough dust to make a thin short line, like a faint pencil mark. So little dust, distributed over such a large surface—and yet we still can see it. The eye is that powerful. If we can see that, I thought, why not ourselves? Why not everything?

So I strode around the cognac advertisement in a state of rapture; until I remembered the sheets, down in the washing machine. All would have been well, if not for the sheets. All through the week I had been washing

those sheets, downstairs in the basement. Red plastic laundry basket filled with linen: we had seven bottom sheets, seven pillow cases, seven big duvet cases. The duvets were fine, as white as cotton. But the bottom sheets, the pillow cases... Well. They were yellowed. Stained. Alarming evidence of our bodies, our physical existence: oils, fluids, minuscule scraps of us rubbed into the cloth like butter, ineradicably.

Certainly, I thought, the Swiss must have methods for dealing with evidence as serious as this. So I had gone out and bought bleaches. Recalling the bleach ads from back home, I trustfully assumed that the stained linen would emerge from one trip through the wash gleaming like lightning. But it wasn't so. Wash after wash did nothing to change their color. I went out and bought a different kind of bleach, then another. Two powders, one liquid. I upped the doses on each of them. Nothing worked.

And now it was the morning of Inspection Day, and I had recalled the sheets in the basement, and my rapture was shattered. I hurried down stairs, walked down the long concrete underground hallway to the laundry room. I saw that the building would stand for a thousand years. It would resist ten megatons. The washing machine was trilingual and as big as a truck. I brought it online, gave it its pre-run check-off for the final attempt, set my array of bleaches on top of the machine. It was the fourteenth time I had run things through this week, and I had the procedure streamlined; but this time I stopped to think. I looked at the three different kinds of bleach on top of the dryer, and I had an idea. I took the largest cap and turned it open end up, then poured in liquid bleach until the cup was half full. Then I poured in some of both of the powders.

Synergy, right? Singing a little tune in praise of the mysterious force of synergy, I took the pencil from the sign-in book and stirred the mix in the cap vigorously. It began to bubble a little, then to foam.

Only at that point did I remember my wife, the chemist, yelling at me for mixing two cleansers together in an attempt to get a bathtub clean. "If you had mixed ammonia and Ajax it would have made chloramine gas and killed you!" she had said. "*Never* mix stuff like that together!"

So I left the cap of bleaches on the dryer and ran out of the room. From the concrete hall I stared back in, sniffing carefully. Glancing down I noticed the pencil, still clenched in my hand; and the bottom half of it, the part that had stirred the bleaches, was as white as a stick of chalk. "Ho!" I exclaimed, and retreated farther up the hall. Synergy can be a powerful thing.

After some thought, and a closer inspection of the pencil, which now had a pure white eraser, I returned to the washroom. The air seemed okay. I was committed at this point, I had to meet the Swiss challenge. So I tipped the capful of bleaches carefully into the plastic opening on

top of the washer, and I stuffed our yellowy bottom sheets and pillow cases inside, and I closed up the washer and punched the buttons for the hottest water available, ninety degrees centigrade. Walking back upstairs I noticed that the very tip of my left forefinger had a white patch on it. Back in the apartment I found it wouldn't wash off. "Bleached my flesh!" I exclaimed. "That stuff is finally working the way it's supposed to."

An hour later I returned to the washroom apprehensively, hoping that the sheets had not been eaten to shreds or the like. On the contrary; when I opened the washer door there was a glare as if several camera flashes had gone off right in my face, just like in the ads; and there were the sheets, as white as new snow.

I hooted for glee, and stuffed them in the dryer. And by the time the Inspector rang the bell below, they were dried and ironed and folded and neatly stacked in the linen drawers of the bedroom wardrobe, looking like great hunks of Ivory soap.

I hummed cheerfully as I let the Inspector in. He was a young man, perhaps younger than myself. His English was excellent. He was apologetic, defensive; it was a boring task for both of us, he said, but necessary. No problem, I replied, and showed him around the place. He nodded, frowning slightly. "I must count the various items in the kitchen," he said, brandishing an inventory.

That took a long time. When he was done he shook his head disapprovingly. "There are four glasses missing, and one spoon, and the top off the tea kettle."

"That's right," I said happily. "We broke the glasses and lost the spoon, and I think we broke the tea kettle, though I can't remember." These things didn't matter, they didn't have to do with the essential challenge, which concerned not number but order; not quantity, but quality; not inventory, but cleanliness.

And the Inspector understood this too; after listening to my admission, he shook his head seriously and said, "Fine, fine; however, what about *this?*" And with a satisfied look he reached up into the the back of the top shelf of the broom closet, and held out before me a short stack of grimy kitchen towels.

In that moment I understood that the Inspector wanted dirtiness, in the same way that a policeman wants crime; it's the only thing that can make the job interesting. I stared at the kitchen towels, which I had completely forgotten. "What about them?" I said. "We never used those, I forgot they were up there." I shrugged. "The previous tenant must have done that to them."

He stared at me disbelievingly. "How did you dry your dishes?"

"We stood them in the drainer and let them dry on their own."

He shook his head, not believing that anyone would rely on such a method. I recalled the Swiss friend of ours who dried her bathtub with a towel after showering. I shrugged stubbornly; the Inspector shook his head stubbornly. He turned to look in the broom closet again, to see if there were any other forgotten treasures. Without forethought I quickly reached behind him and touched the stained kitchen towels with my bleached forefinger.

They turned white.

When the young inspector was done searching the broom closet, I said casually, "But they're not that bad, are they?" He looked at the kitchen towels and his eyebrows shot up. He regarded me suspiciously; I just shrugged, and left the kitchen. "Are you about done?" I asked. "I have to go downtown."

He prepared to leave. "We will have to see about the missing glasses," he said, voice heavy with dissatisfaction.

"And the spoon," I said. "And the tea kettle top."

He left.

I danced through the sparkling air of the empty apartment. My work was done, I had passed the inspection, my soul was pure, I was in a state of grace. Weak sunlight lanced between low clouds, and out on the balcony the air was frigid. I put on my down jacket to go into the city center, to see my Zürich one last time.

Down the old overgrown steps and through the wintry garden of the ETH, past the big building housing the Chinese graduate students. Down the steep walkway to Voltastrasse, past the Japanese fire maple and the interior design store. I touched one red rose and was not particularly surprised to see it turn white. My whole fingertip looked like paraffin now.

Down at the Voltastrasse tram stop, in the wind. Across the street the haunted house stood, a pinkish wreck with big cracks in its walls; Lisa and I had always marveled at it, there was nothing even remotely as derelict as it anywhere in Zürich. It was an anomaly, an exile like we were, and we loved it. "I'll never touch you," I said to it.

A Number Six tram hummed down the hill from Kirche Fluntern and squealed to a halt before me. You have to touch a button to get the doors to open, so I did that and the whole tram car turned white. Usually they are blue, but there are a few trams painted different colors to advertise the city museums, and there are some painted white to advertise the Oriental museum in Rietliberg, so I assumed that this car would now be taken for one of those; and I climbed aboard.

We slid off down the hill toward Platte, ETH and Central. I sat in the back of the tram and watched the Swiss in front of me, getting on and

off. Many of them were old. None of them ever sat in seats beside each other until all the seats had been filled by single parties. If single seats were vacated at a stop, people sitting next to strangers in double seats would get up and move to the single seat. No one talked, though they did look at each other a little. Mostly they looked out the windows. The windows were clean. These trams on the Number Six line had been built in 1952, but they were still in factory perfect condition; they had passed the inspection.

Looking down, I suddenly noticed that each pair of shoes on the tram was flawless. Then I noticed that each head of hair was perfectly coifed. Even the two punks on the tram had their hair perfectly done, in their own style. Shoes and hair, I thought, these will reveal the wealth of a nation. These extremes reveal the soul.

At the ETH stop a Latin American man got on the tram. He was dressed in a colorful serape, and thin black cotton pants, and he looked miserably cold. He was carrying an odd thing that looked like a bow; it was painted crudely, in many colors, and there was a small painted gourd attached to it, where you would hold the bow if it were meant to shoot arrows. The man had long lanky black hair that fell loosely over his shoulders and down the back of the serape, and his face was big and broad-cheeked; he looked like a *mestizo*, or perhaps a purebred Indian from Bolivia or Peru or Ecuador. There were quite a few of them living in Zürich, Lisa and I often saw groups of them on Bahnhofstrasse, playing music for change. Pan pipes, guitars, drums, gourds filled with beans: street music performed right through the winter, with the players and audience alike shivering in the snowy air.

When the tram started to move again, this Latino walked to the front of the car and turned around to face us all. He said something loudly in Spanish, and then began to play the bow and gourd instrument, plucking it rapidly. Moving one thumb up and down the metal bowstring changed the pitch of the sound, which reverberated in the gourd, making a kind of loud twang. The resulting sound was awful: loud, unmelodic, impossible to ignore.

The Swiss stared resentfully at this intrusion. This was not done; I had never seen it before, and neither had the others aboard, it was clear. And the sound of the primitive instrument was so insistent, so weird. The disapproval in the car was as palpable as the sound, the two vibrations battling each other in tense air.

The tram stopped at Haldenegg, and several people got off, more than would usually; clearly some were just escaping the musician, and would get on the next tram to come along. Newcomers, unpleasantly surprised,

stared at the man as he twanged away. The tram doors closed and we moved off again, down the hill to Central. The captive audience stared at the musician, as belligerent as cows eyeing a passing car.

Then he broke into song. It was one of those Bolivian or Peruvian hill ballads, a sad tale dramatically told, and the man sang it over the twanging of his absurd instrument in a hoarse wild voice, expressing all the anguish of the exile, lost in a cold land. What a voice the man had! Suddenly the ridiculous twanging made sense, it all fell together; this voice in a foreign language cut through all the barriers and spoke to us, to each and every person on the tram. That kind of singing is impossible to ignore or deny—we knew exactly what he was feeling, and so for that moment we were a little community. And all without understanding a word. What power the voice has to express what really matters! People shifted in their seats, they sat up, they watched the singer intently, they smiled. When he walked up and down the tram, holding out a black felt hat, they dug deep in their pockets and purses and dropped change in, smiling at him and saying things in Swiss German, or even in High German so he might perhaps understand. When the doors hissed open at Central, they were surprised; no one aboard had noticed our arrival.

The Swiss! I had to laugh. So closed in, so generous…

Then as each person touched the white parts of my white tram, they went white themselves. Chairback or railing or overhead support, it didn't matter; they touched the tram and left it as white as porcelain figures of themselves. And no one at Central paid any attention.

As we left the tram together, I touched the musician on the shoulder, in a sort of greeting, or an experiment. He only looked at me, eyes black as obsidian; and it seemed to me that the vivid colored thread sewn riotously into his serape actually grew more brilliant, more intensely colorful: little rainbow cross-hatchings, scarlet and saffron and green and violet and pink and sky blue, glowing in crude brown woolen cloth. Without a glance back the musician walked off into the Niederdorf, Zürich's medieval town.

I crossed the bridge looking down at the white swans in the gray Limmat, feeling the wind rush through me, buoyant with the memory of his music and my apartment's purity. I walked down Bahnhofstrasse seeing it all again, seeing it fully for the first time in a long while and the last time in who knew how long, perhaps forever, and my heart filled and I said "Ah handsome Züri my town, my town, I too am one of your exiled sons," and I caressed the granite blocks of the stolid elegant buildings and they turned white as wedding cakes under my hand, with a keening sound like violins taped and played backwards. When would I ever see it again like this, with its low pearl gray sky rushing overhead in the cold wind,

with the Alps at the end of the Zürichsee standing up like cardboard cutout mountains, steeper than mountains could ever be? I touched the tram tracks and they turned to white gold, in a wide street of glazed sugar. And I walked down this white street looking in the sparkling window displays of the rich merchants, the jewelry and clothing and watches all perfect and gleaming, and, as I traced my fingers over the window glass, as white as white opals.

In among the narrow alleyways of the medieval town I wandered, touching every massive building until it seemed I walked in a silent world of milk and baking soda, saying good-bye with every touch. To consciously be doing something you loved, for the last time! Past St. Peter's church which was already alabaster before I touched it, past Fraumünster and across the river to Grossmünster with its painfully spare interior, like a tall empty warehouse made entirely of white marble... Then back across the river again, on a paper bridge. And looking down the gray Limmat I saw that much of Zürich had turned white, bleached by my touch.

I came to the lakefront at Burkliplatz, touched the steps and suddenly the fine little park and the boat docks gleamed like soap carvings. The beautiful statue of Ganymede and the eagle looked like they had been molded out of white ceramic, and in Ganymede's outstretched arms it seemed to me a whole world was being embraced, a rushing world of gray sky and gray water where everything passed by so fast that you never got the chance to hold it, to touch it, to make it yours. Can't we keep anything? These years of our life, we were happy, we were here, and now it was all white and clean and still, turning to marble under the touch of my hand. So that in the pure rapture of final things I walked down the white concrete ramp to the lapping lake water and crouched down and touched it; and before me I saw the whole long lake go still and turn white, as if it were an immense tub of white chocolate; and in the distance the magnificent Alps were white; and overhead the rushing clouds pulsed white and glowed like spun glass. I turned around and saw that the city's transformation was complete: it was a still and silent Zürich of snow and white marble, white chocolate, white ceramic, milk, salt, cream.

But from a distant street I could still hear that twanging.

Oral Argument

My friend Mario Biagioli invited me to a conference he organized at UC Davis's law school, on patent law concerning synthetic biology. He gave all the participants a reading packet which included oral arguments before the Supreme Court, and asked all of us to write a comment for the conference. This was mine.

Mr. Chief Justice, and may it please the court:

Thank you, it's good to be here. A special hearing convened by you is very special. I'm happy to answer your questions.

Well, yes, the subpoena. But I'm happy too.

No, I did not represent them in those years. And now I'm only serving as their spokesperson while their legal standing is being clarified.

No, I don't know where they are. But if I did, that would be a matter of attorney-client privilege.

Spokesperson confidentiality, yes. Like protecting my sources. That's what I meant to say.

I do know what contempt of court means, yes. I brought my toothbrush.

No, I'm happy to answer any questions you have. Really.

Okay, sure. I met them when they were finishing their postdocs at MIT. I should clarify that they had no affiliation with MIT at the time they did the work in question, as MIT has proved.

Their project involved identifying and removing problem parts in the biobricks catalog. After MIT shifted the catalog to the iGEM website—

No, I don't think repudiated is the right word for that. MIT might have been worried about legal repercussions, but I don't know. I came in later.

Anyway, after that change of host, the iGEM Registry of Standard Biological Parts grew much larger, and the parties for whom I am speaking found that there were questionable parts in the catalog, for instance a luminous bacteria that emitted lased light which unfortunately burned retinas, or—

Sorry. I'll try to be brief. While going through the biobricks catalog, my former clients found a seldom-used plasmid backbone called DragonSpineXXL, much longer than typical plasmid backbones. The DragonSpine's designers apparently had hoped to enable bigger assemblages, but they encountered in vitro problems, including one that they called spina bifida—

It's a metaphor. I'm not a biochemist, I'm doing the best I can here. But to get to the point at your level of patience and understanding, as you so aptly put it, our bodies obtain their energy when the food we eat gets oxidized, producing ATP inside our mitochondria. ATP is the energy source used by all our cells. In plants, on the other hand, light striking the chloroplasts in leaves powers the production of ATP. Despite the different processes, the ATP is the same—

Yes, I too was surprised. But all life forms on Earth share 938 base pairs of DNA, so it makes sense that there are some family resemblances. So, it occurred to my almost clients that—

They consisted of a microbiologist, a systems biologist, a synthetic biologist, and an MD specializing in biochemistry and nutritional disorders—

Yes, no doubt a good joke about the four of them walking into a bar could be concocted. But instead of that they found biobricks in the catalog that could be combined to make a synthetic chloroplast. They felt it would be possible to attach this synthetic chloroplast to a DragonSpine, and still have room to attach another assemblage they concocted, one where fascia cells formed hollow fibroblasts—

Sorry. Fascia are bands of connective tissue. The bands are stretchy, and they're all over inside us. They kind of hold our bodies together. Like your feet, have you ever had plantar fasciitis? No? You're lucky. I guess you sit

down on the job more than I do. Anyway, fascia consist of wavy bands of collagen blobs produced by fibroblasts. So, my acquaintances loaded DragonSpines with fibroblasts containing chloroplasts—

Yes, I know it's confusing. You are not biologists, I know. It's easy to remember that. What it comes down to is that my sometime clients, using nothing but synthetic parts found in the Registry of Standard Biological Parts, created photosynthesizing human cells.

Wait, excuse me, what you say is not correct. They didn't want to patent it. They knew that the registry was an open source collection.

I don't think they suspected that the idea itself would be patentable. The law there is ambiguous, I think that can be said. You might have judged their idea a business method only, you've done that before. An idea for a dating service, a new way to teach a class, a new way to replenish your energy—they're the same, right? They're ideas, and you can't patent an idea, as you ruled in Bilski and elsewhere.

Yes, there were some physical parts in this case, but the parts in question were all open source. If you type out your idea on a computer, that doesn't make it patentable just because a computer was involved, isn't that how you put it in Bilski?

Quoting precedent is not usually characterized as sarcasm, Your Honor. The patent law is broadly written, and your decisions concerning it haven't helped to narrow or clarify it. Some people call that body of precedent kind of ad hoc-ish and confusing, not to say small-minded. Whatever keeps business going best seems to be the main principle, but the situation is tricky. It's like you've been playing Twister and by now you've tied yourselves into all kinds of contortions. Cirque du Soleil may come knocking any day now—

Sorry. Anyway the patent situation wasn't a problem for my erstwhile clients, because they didn't want a patent. At that point they were focused on the problem so many new biotechnologies encounter, which is how to get the new product safely into human bodies. It couldn't be ingested or injected into the bloodstream, because it had to end up near the skin to do its work. And it couldn't trigger the immune system—

Yes, in retrospect the solution looks perfectly obvious, even to you, as you put it so aptly. The people I am speaking for contacted a leading firm in the dermapigmentation industry. Yes, tattooing. That method-

ology introduces liquids to precisely the layer of dermis best suited for the optimal functioning of the new product. And once introduced, the stuff stays there, as is well known. But my putative clients found that the modern tattoo needle systems adequate to their requirements were all patent protected. So they entered negotiations with the company that owned the patent entitled "Tattoo Needle Tip Equipped with Capillary Ink Reservoir, Tattoo Tube Having Handle and Said Tattoo Needle Tip, and Assembly of Said Tattoo Needle Tip and Tattoo Needle."

This device was modified by the parties involved to inject my future clients' chloroplast-fibroblasts into human skin, in the manner of an ordinary tattoo. When experiments showed the product worked in vivo, the two groups formed an LLC called SunSkin, and applied for a new patent for the modified needle and ink. This patent was granted.

I don't know if the patent office consulted the FDA.

No, it's not right to say the nature of the tattoo ink was obscured in the application. Every biobrick was identified by its label, as the records show.

Yes, most of the tattoos are green. Although chlorophyll is not always green. It can be red, or even black. But usually it's green, as you have observed.

No wait, excuse me for interrupting, there were no deaths. That was the hair follicle group. Thermoencephalitis, yes. It was a bad idea.

No, I'm not saying that no one with SunSkin tattoos ever died. I'm saying that no deaths suffered by those customers was proved to be caused by the tattoos. I refer you to that entire body of criminal and civil law.

Of course some of them did in fact die. No one ever claimed photosynthesis would make you immortal.

I do not speak for SunSkin, which in any case went bankrupt in the first year of the crash. My association is with my potential clients only.

After the crash, my ostensible clients formed a 501(c)(3) called End Hunger. They renounced the patent on their product, and indeed sued to have the patent revoked as improperly granted, the product being made entirely of open source biobricks.

No, the patent was not their idea in the first place. It was the idea of the lawyers hired by SunSkin. Amazing as it may seem.

Yes, the assemblage itself was my quasi-clients' idea.

Yes, the idea was new, and not obvious, which is how the patent law as written describes eligibility. But the parts were open source, and photosynthesis is a natural process. And my associates wanted their assemblage to remain open source. Actually all that quickly became a moot point. Once they published the recipe, and the knowledge spread that human photosynthesis worked, the injection method as such became what you might call generic. It turned out the cells were very robust. You could stick them in with a bone needle and they would do fine.

I don't know how much money my semi-clients made.

Estimate? Say somewhere between nothing and a hundred million dollars.

I brought my toothbrush, as I said. Obviously my once and future clients made a living. I don't think you can object to that. As you pointed out in Molecular versus Myriad, no one does anything except for money. Indeed you thought it was a great joke to imagine that people might work just for curiosity or recognition or the good of humanity. Curiosity, you said. That's lovely, you said. Don't you remember? You got a good laugh from the gallery, because you have no idea how scientists think or what motivates them. You actually seem to think it's all about money.

Not since the crash it isn't.

Yes, it does appear that large quantities of ATP entering the body by way of capillaries in the dermis causes some people to experience side effects. Hot flashes, hypersatiety, vitamin deficiencies, irritable bowel syndrome, some others. But you've made it clear in many cases that side effects cannot be allowed to stop the making of money. Your priorities there are very clear.

Well, I'm surprised to hear you describe the worst depression since the Black Death as a side effect. Especially the side effect of a new kind of tattoo.

Agreed, when you photosynthesize sunlight you will be less hungry. You might also spend more of your day outdoors in the sun, that's right, and subsequently decide that you didn't need quite as much food or heating as before. Or clothing. Or housing, that's right. I don't see all these green naked people wandering around sleeping under tarps in the park like you seem to, but granted, there have been some changes in consumption. Did changes in consumption cause the Great Crash? No one can say—

That means nothing. Your feeling is not an explanation. Historical causation is complex. Technology is just one strand in a braid. What you call the Great Crash others call the Jubilee. It's been widely celebrated as such.

Yes, but those were odious debts, so people defaulted. Granted, maybe it was easier to do that because they weren't in danger of starving. Maybe the rentier class had lost its stranglehold—

Not true. Most people think the crash resulted not from photosynthetic tattoos or the Big No but rather from another liquidity crisis and credit freeze, as in 2008. Possibly you've even heard people saying that the failure to regulate finance after 2008 was what led to the crash, and that the failure to regulate finance was a result of your decision in Citizens United and elsewhere. Possibly you've heard yourselves described as the cause of the crash, or even as the worst court in the history of the United States.

Sorry. This is what one hears when one is outside this room.

May I point out that I am not the one straying from the point. In the matter of this current hearing, which strikes me as a bit of a witch hunt to find culpability for the crash anywhere but at your own doorstep, I repeat that my clients never wanted the patent and renounce all claims to it. The patent was awarded to an LLC called SunSkin, which went bankrupt in the first year of the crash when its principal lender broke contract by refusing to pay a scheduled payment. Possibly the lawsuit against the lender will eventually be won, but as SunSkin no longer exists, it will be a bit of a Pyrrhic victory for them.

Well, as the lender was nationalized along with all the rest of the banks in the third year of the crash, if SunSkin's lawsuit ever comes to you, you may have to recuse yourselves as being a party to the defendants. Not that that kind of conflict ever stopped you before.

I don't know, can there be contempt of court if the court is beneath contempt?

I don't care, I brought my toothbrush. I'll be appealing this peremptory judgment at the next level.

Not true. There is most definitely a next level.

Seven Shaman Songs

These come from my novel *Shaman*.

In autumn we eat till the birds go away,
And dance in the light of the moon.
In winter we sleep and wait for spring,
And watch for the turn of the stars.
In spring we starve till the birds come back,
And pray for the heat of the sun.
In summer we dance at the festivals,
And lie in twos on the ground.

Back in the old time we lived like birds,
We pecked and shivered and did what we could
In every season, rain snow or shine.
But once there was a time, they say,
Once in that time when we lived so far south
That the sun stood in the north of the sky,
Came a year when summer failed to return.
Spring didn't come nor summer after it,
It stayed bad cold though the days got long,
Cold and stormy through spring summer and fall,
Cold right through to the following winter
With never a chance to gather food.
And then it happened the next year too,
And the year after that, yes, never a summer,
No, nothing but winter, yes winter for TEN LONG YEARS.
And if it were not for the great salt sea
Everybody everywhere would have died and been dead
And no more people on this Mother Earth.

We had a bad shaman, he pinched us
And beat us with sticks till we bled,
He stuck bone pins through our ears
And pulled them out sideways to make us remember.
You see what I have on the sides of my head,
Nothing but holes straight into my brain.
It wasn't right but I'll admit this:
I do remember things very well.

One thing I remember is how he led us
Into this cave for the first time
To paint the sacred animals.
It was one of his sorcerer things.
He had us all painting the cliffs
Under the abri at Ordech-Meets-Urdecha,
Using charcoal and bloodstone
To paint just like he did,
Not just lame tries like kids on a lark,
But true three-liners and colored paintings
And all the tricks you see in here now,
To make the brothers and sisters look real,
And move in the light like they'll jump in your face.

I remember he took me and his other boys
And made us eat his sorcerer's dust,
A ghastly mix so bitter we puked
And afterward walked knee high off the ground,
Which is very hard to do without falling.
And he hauled us into the depths of the cave

Singing a spirit song announcing our presence
To the great mother goddess whose body we stand on,
Whom he said we were mating by walking inside her.
We were the spurtmilk that night, he said.
A full moon it was, and Pika the shaman took an oil lamp
And led the way into the kolby of Mother Earth,
Warm and damp just as you might expect,
All opened to us, and pulsing not so much pink as orange.

Now we come to you, mother, sister
Singing and bringing you some of your people
Bison and horses, favored by the sun
Hunters and hunted, cats and mammoths
Every manner of brother and sister
The ones you love, the ones we love
Talk to me, mother. You are the one I listen to
You are the one I want to speak. Not me
But you. You speak to me and through me.

Elga:

I came from the east, from a pack on the other side
of the mountains east of here.
Most of my people were killed in a spring flood,
And the rest of us went to find our brothers
Who had married to the west of us, among the Horse pack.
They took us in, and they came here to this festival.
These ice men heard what had happened to us, and
captured me.
I got away from them after a time
And came back here and joined this Wolf pack.
The women of Wolf pack took me in,
And I married this man Loon, and had his child.
Then the next sumer the ice men stole me again.
I was a captive of theirs and they treated me badly.
They keep captive wolves to do their hunting,
And maybe that's what gave them the idea to do the same
with people,
Because they have captives they don't treat like real people.
But I say, anyone who keeps captives,
THEY are the ones who are not real people.
I'll never go back to them. I'd kill myself
If you made me. It's too bad some of them got hurt
When I was rescued by my husband and my pack,
But it's their fault. They started it
And so now THEY DESERVE NOTHING AT ALL.

Thorn:

I took back our people from these kidnappers.
I went in like an otter into a beaver's den
And wreaked some havoc so we could make our escape.
The man they took is my apprentice,
A young shaman in the making, pretty good as a painter.
His wife came to us from somewhere else,
Maybe even from these ice men,
I don't know and it doesn't matter.
She's part of our pack now, she chose us herself
And our women took her in.
So what we did has been right all along.
But listen, for the sake of the eight eight,
We're willing to make some compensation
For any damage we did when we rescued her.
We took four pairs of snowshoes with us,
And now we're willing to give them back,
To make up for whatever their losses happened to be.
And these new snowshoes are better than theirs,
They're the best snowshoes ever made.
These ice men couldn't make snowshoes this good
Even if they knew how to do it,
Because they don't have the right kind of trees in their
frozen-butt land.
So they should be happy and the whole matter over,
Over for good and no more claims,
No more sniveling like babies that don't get their way,
No! No! No! (shouted loudly) We make good any bad we do,
Like any pack that knows how to get along,
And then it's simply over, that's all.

We who loved you in the time you lived,
Who cared for you as you cared for us
We lay you here and give your body to the sky
So your bones can rest peacefully in Mother Earth
And your spirit live on freed of this world,
Live on in the dream above the sky
And we will always remember you.

I am the third wind
I come to you
When you have nothing left
When you can't go on
But you go on anyway
In that moment of extremity
The third wind appears
And so it is I come to you now
To tell you this story

The Timpanist of the Berlin Philharmonic, April 1942

I wrote this story at the request of Jonathan Strahan, who wanted to include something new from me in the "best of Robinson" story collection he was editing for Night Shade Books. This was during the Iraq War.

First movement: Allegro ma non troppo, un poco maestoso

The first movement is about death. It begins with a little joke, that's Beethoven for you—the most terrifying music ever, yet he begins by making it sound like the horn players are warming up their lips and mouthpieces, the strings tuning their note against the oboe, the flashier ones throwing in a fifth below as if to test even the harmonics—and then the whole thing falls over a cliff into something urgent and loud, jagged and dark. The timpanist got to hammer this sudden fall home with the most violent entrance of his life. The stroke of doom, the bad news—he hit his D and A drums like the sledgehammer of Death, killing everything. A complete Götterdämerung in sixteen notes; the perfect music for the evening, in other words. Because they were all doomed.

Furtwängler knew it of course, none better; he had marched up to the podium as if to the gallows, and begun conducting the instant he got there, as he always did now—but this time it was different, the grim look on his face unprecedented and frightening. Behind him, out among the packed audience filling the big hall of the Philharmonie, the timpanist could see any number of uniformed men with eyepatches, arms in slings, bandaged noses, missing legs. In his peripheral vision he could see the giant swastikas draped to each side of the stage, and there was another one above and behind them. The Nazi officials sat in the front

row, Goebbels chewing his underlip like a rabbit. It was best not to look at them. During the short rests between his assaults, and throughout the second theme, as the counter-tune kept trying to tiptoe out of the room, the timpanist locked his gaze on their conductor; nevertheless he still saw the bandaged men, also a scattering of soberly dressed women, their faces twisted with pity, dread, longing, regret. When the return of the first theme caught them all he brought his sticks down harder than ever, pounding out their doom.

Not that this music was only about death. The first movement of Beethoven's Ninth was an entire world in itself, one relearned this every time one traversed it; its seventeen or eighteen minutes expanded into a Greek tragedy that felt like it filled years. There were shifts, respites, restless searches, kindly moments... In certain bars the woodwinds followed a pause with a little cantabile, a pulse of life, and the strings carried it away in a nervous interrogation, asking Can this sweetness exist? Can we get away with such delicate play? Can we leave all the rest of the world behind? Only to be answered NO, the little tune smashed down in another flood of doom, the dark plunge, the knell in the heart of the first theme, its falling thirds and fifths like tripping down cliffs at the edge of an abyss. Struggle away as hard as they could, they kept falling back. This was not like the famous first theme of the Fifth, which was a very different call, a matter of adversity defied, Fate heraldic, its eight notes quickly elaborated, woven together, lifted up in a shout that was ultimately heroic; yes, the Fifth's first movement was heroic; while the Ninth's was simply death, arriving without any possibility of denial, right there in the great hall of the Philharmonie. April 19, 1942.

And everyone there knew it, everyone who was not a fool, anyway, and in such fundamental things there were very few fools. Perhaps Goebbels was a fool, if he was not a calculating opportunist, or simply mad. But most of the people in the hall knew very well. They had heard the bombers at night, had descended into the Untergrund when the air raid sirens howled, had stood in the dark listening as the whole world above them became a throbbing band of kettle drums. They saw the maimed boys sitting among them. They read the newspapers, they listened to the radio, they talked in kitchens late at night with friends they trusted. They were Berliners, they knew.

Recently the timpanist had discovered that in the extremity of the violent passages throughout the middle minutes of the first movement, the long rolls Beethoven had given him to play could be made to sound precisely like the bombers at night overhead, and different kinds of bombers at that, depending on how close to the rim he hit and how fast, so that he could imitate the low grumble of Heinkels struggling for take-off, or the

high staccato of de Havilands, or the creamy thrum of Lancasters rushing by on a massed run. These engine rolls were punctuated by explosive hits mid-drumhead, like anti-aircraft fire; it was amazingly like. From within his prophetic solitude the deaf old man had apparently heard the deadly future reverberating back to him, had translated it into *x*'s and *tr*'s and *sf*'s and *fff*'s, and the diagonal crosses through the notes that meant *bomber*.

Now back to the fateful hammering of the first theme. Here he re-created the sounds of the big guns of the last war. He had fought in that war and heard each kind of gun innumerable times, sometimes in the very rhythms Beethoven now required, sometimes for hours on end. Fifty kilometers of Big Berthas, going off all night long: useful knowledge in this moment. Happily he pounded as hard as he could get away with, or harder. Every person in the hall surely recognized what he was doing.

Of course outside the music they rarely discussed the war, you couldn't. The timpanist was as careful as anyone when he was in the building, and never said anything around Rammelt or Kleber in the cellos, or Bucholz, Schuldes, Woywoth—these five were the really obnoxious party members. Just five of them, and yet that was enough to poison the whole ensemble. Once he had seen Woywoth tell Hans Bastiaan, a mild little violinist, "You have to say Heil Hitler when you greet someone now," and Bastiaan had replied, "Ah but it's also nice to simply wish a good morning, isn't it?" and Woywoth had glared at him until Bastiaan had scurried away like a mouse.

But very few of them were like that. They were like children when it came to politics, they didn't know what to say about it and didn't want to know. Most of them hadn't fought in the first war; most lived their whole lives inside music. Although sometimes a few of them gathered in a rehearsal room, and someone would look over someone's shoulder at a newspaper and mutter things, Oh dear this latest victory in Russia seems to be only half as far along as the one before, it's a Zeno's paradox of a front. Or tough talk under the breath, ha ha ja sure, a mode common to everyone since the Twenties at least. The latest word was that hundreds of British bombers had destroyed Hamburg in a single night, burned it to the ground. Berlin was sure to follow, no one could doubt it. And yet no one could say it, not with Nazis in their midst, sanctimonious petty assholes that they were. The Berlin Philharmonic used to belong to its players, they had owned it, each player a share, but Goebbels had forced them to sell, had seized them. They were birds in a cage now, and had to be fearful of traitors. Around the midnight tables a few of the most disgusted had even discussed the situation and what they would do the moment the war was over: they would immediately dismiss Rammelt, Kleber, Bucholz, Schuldes, and Woywoth, and then they would open

their first postwar concert with an overture by Mendelssohn. That was the plan, that was what they would do, they told each other drunkenly, when it was all over—at which point they could only wince and nod when Erich Hartmann added his usual coda to any such talk: *when we're all dead.*

Now, glancing helplessly through the glare of the lights at the audience, the timpanist could see in the little faces out there that they had all heard a Hartmann, one way or another. The knowledge filled them like an iron bell in the chest: in a year or two, only a few here would be alive. Less than half? A tenth? None at all? None could tell, and yet all knew; indeed the music *insisted* that they know, and the timpanist's mallets drove it into their skulls. That repetitive little dirge in the basses that announced the coda, the phrase that had given Berlioz the shivers, convinced him that the old man had known madness full well: it filled them now, vibrated their guts, they could not escape it. Six notes down, two notes up, over and over and over. Never had they played the first movement like this before, it was their knowledge playing it. The final massive D-minor falling fifths, implacable, unavoidable, dragging them down, pushing them off the cliff into the abyss—hit every note:

Bah bum! bah bum, bah bum, bah bummmmmm,
bah bum bum bah! bah! bah! bah! bum.

Second movement: Scherzo molto vivace

The scherzo is best regarded as a concerto for timpani and orchestra, especially if you are the timpanist. The solo timpani notes called for in the fifth bar are part of the tune, simply an octave apart, Ds both, repeating and thereafter anchoring the syncopated dactylic theme, and often banging it solo in the resonant pause of all the others. Soloist and orchestra. You had to love Beethoven for thinking of it.

The timpanist thumped his great three notes home and then off they went, rollicking inside a juggernaut that stopped for nothing. *Molto vivace,* sure, but alive with some kind of thoughtless life, something insectile or germlike which shrugged off all obstruction. A life manic and onrushing, a life that killed. The mad blind energy of the universe.

Furtwängler conducted this relentless engine in his usual spastic style, urging the group along by mysterious movements. Jerky, uncoordinated, enigmatic: the timpanist like all the rest of them had long since learned that the actual beat Furtwängler wanted could be best read in the movements of his upper arms, or in his shoulders more generally. Nothing else about him was reliable as to tempo; his other shudderings meant God

knew what. One could only conclude they referred to some qualities beyond physical expression which he nevertheless tried to convey, qualities which Furtwängler himself was at a loss to define, even in rehearsal. He was a little bit crazy. He spoke in bursts, after pauses, and could be amazingly inarticulate when talking about what he wanted in a piece. He would pause at questions, tap the score, cluck in exasperation: Just look at the music, he would say in the end. Just play what's there.

And so they would. Ultimately it became a matter of group telepathy. This was always partly true, but under Furtwängler's baton, completely the case. There was nothing else for it; they had to make it up themselves. The sudden responsibility of this, the imposed task, was startling, worrisome, sometimes electrifying. And it was in keeping with Furtwängler's slippery resistance to the Nazis. Just as he would not let them dictate to him, he would not dictate to his players, even though as conductor this could be said to be his job. The surprising thing was how often he made it work—how watching him flail up there, seeing him out of tempo and yet believing in him, they so often played as one organism, one mind. It was the best feeling in the world.

Naturally they would have loved him just for that alone. Some of the other conductors were martinets, like Knappertsbusch, or idiots, like Krauss, and of course there was always the icy ugliness of the maestro's great enemy von Karajan. No—a good conductor was always appreciated, a great conductor often loved.

But with Furtwängler it was so much more. The timpanist had felt like that for more than half his life; he had been a bass player as a young man, won his place in the Berlin Philharmonic right beside Erich Hartmann himself, but had gone to the front in the first war and fallen in no-man's land during an attack, broken his left arm and leg and for the following eleven days been caught there under fire from both sides, eating dead men's provisions and trying to hide or crawl back to the German side, which seemed to retreat before him. A night patrol had finally brought him in, but he had never afterward been the same, not in mind nor body, and often could not suppress a small quiver in his left hand. It had looked to be the end of his musical career, but Furtwängler had watched him play, then suggested to him that his tremor would go away if he hit the drums, that it would only make him "quicker." It made a way to go forward.

That was big; but now scattered among the orchestra there were many other men who were only there, and perhaps only alive, because of Furtwängler. Bottermund, Zimolong, Leuschner, and Bruno Stenzel were half-Jews; several others, including their concertmaster Hugo Kolberg, were married to Jewish women. She's always been that way, Kolberg

would explain plaintively, I regret it but there it is, what can I do. Nothing; but Furtwängler did something. The full Jews in the orchestra had been driven into exile in the Thirties, to the maestro's great distress and over his objections; but after that he insisted he had to have his people, that they and their wives were to be left alone. Naturally this made Goebbels intent to break him, and the maestro had had to sacrifice his career to hold the line; had quit as the musical director of the Philharmonic, and of the Staat Opere, quit all his official positions until now he conducted only as a guest, accepting invitations on an individual basis, and never in the conquered countries. And he never gave the Nazi salute, not even when Hitler was there, always marching to the podium baton in hand and beginning the moment he got there, in a way he never had in the past. Everyone knew it was a defiance.

Now he was far away, deep in Beethoven, the greatest German of all. Light on his feet. It was easy to think of Beethoven as a kind of god, his music as natural as sunlight or the ocean, but he had been a deaf old man too, scribbling day after day, a hard worker. Furtwängler somehow made that clear, made the music new again, an improvisation only written down by chance and will. The players saw him struggling to convey this to them. Fighting for them, in so many ways: talking about it in empty cafés, late at night among the most trusted friends, the ones who were also in trouble, they had figured there were about a hundred people the maestro was protecting from the Nazis. Not counting the hundred in the orchestra itself, all balanced precariously on his jerky shoulders.

So of course they loved him. The timpanist would have died for him, and he was not alone in this. And in performance they were forced by his indirection to follow him into that mysterious other land, and do what they could to bring it back into the hall. The timpani part in the second movement allowed the timpanist many little solos reiterating its syncopated theme, a theme so mechanically regular that its effect was ultimately terrible, as if the wild finale of the Seventh had somehow been punched onto the roll of a player piano: blind energy, relentless, remorseless. Again the kettle drums sounded like artillery, even a brief return of the bombers overhead. Furtwängler nodded grimly as he heard this. He had been hauled back from Vienna for this one, Hitler's birthday again, a predictable occasion and so he had been out of town as usual, in Vienna where the city's Gauleiter would have to give permission for him to leave, and von Schirach hated Hitler and presumably would refuse any such permission, making it a safe haven. But the word going round was that Goebbels had gotten von Schirach on the telephone and threatened him so effectively that Furtwängler had been sent back. Now here they were between the swastikas, playing for the Führer's birthday with the cameras

rolling and the tapes recording, so that the performance would be seen by all the world, saved for all eternity. So all the maestro's efforts to keep his distance had come to naught, and now his body was clenched, his baton flew about spasmodically, the abstracted but pained set of his face twisted often into something like rage. Everything about him made it clear to his men that this was a bad occasion, a disaster, a defeat to be suffered. People in times to come would hear the tapes and see the film, and judge them. They would not understand. Only if the orchestra played well enough might people take pause, feel confused—recall the crimes of their own countries, recall how they had turned their heads and hoped it was just a bad time that would go away—recall how they too had failed to resist. Then they might hear the pain of being caught when the bad time didn't go away, when the thugs took over and there was nothing you could do. Or nothing you did. And if they imagined they would do something different, he thought with a sudden forte smash, they lied! They lied!

But if they heard they would understand. So there was nothing for it but to play as if possessed, to live inside Beethoven and throw it in the teeth of their captors, inhabit their music like a fortress and defy the Nazis from inside it. The whole band understood this, their traitors notwithstanding; these first two movements showed it, they were playing in a fury, never had they ridden these old warhorses as hard as this! Feeling the effort all through his body, striking as if his mallets were clubs, the timpanist hit the final notes of the scherzo so hard that the head of his D drum split right across.

Third movement: Adagio molto e cantabile

Normally when the third movement began, he would sit on his stool with about eight minutes of rest, and there were other rests later; he rested more than played. So he would listen to the sweet flow of the strings, and think over his life in a particular order, as if fingering a rosary: first his mother, then his father, then his childhood and youth, lastly his music.

This time however he had to sit on the floor behind the drums and as quietly as possible pull a new head from the head folder, then unscrew the broken drumhead, unhoop it, and get the new one on, all in time for the drum to make its appearance. Possibly he could play the adagio's first timpani part on the other drums, then continue the repair between his first and second entries. It would take almost twenty minutes for the maestro to traverse this longest of adagios. At the worst he should be ready in time for the finale. But it would be better if he could do it right, so he went to work as fast as he could, given the requirement of utter silence

and invisibility. Jürgen, one of the percussionists, noticed his predicament and crawled over to help him. "Günther!" he whispered in his ear, "what have you done!"

"Never mind that," the timpanist replied. "Just help me."

They went to it, sitting on the floor and reaching up to the rims of the copper kettle. As they worked, a part of his mind still took in the music. The adagio was one of his favorite parts. People had a tendency to dismiss the Ninth's adagio a little bit, he had noticed, at least in comparison to the other three movements, each in their different ways so monumental. But that was a mistake; the adagio too was a marvel. Indeed if any one movement of the Ninth were to be singled out as being less astonishing than the rest, it would probably have to be the second, much though a timpanist should never say so, of course. Really it was best just to listen and accept: the whole symphony was great. The adagio was a blessing from God.

Furtwängler routinely played it as if pouring syrup, and on this night he took it slower than ever. The stately melody wound through its series of variations, meandering more each time, with a richness of elaboration reminiscent of Bruckner. Simply put, a very beautiful song. It steadied his hand as he untightened the screws, ignoring the anxious face staring up from inside the copper.

Then there was a shift, a second theme that interrupted the song, coming as if from far away: trumpets speaking briefly. It might have been a call, a rally to return to town; but it was for others; and the song resumed, carried them downstream and away. Furtwängler's dreamy pace never lost a nice line; they flowed in a way that revealed the deep currents beneath. This was what the maestro was listening for in his own world, it was obvious. All around the timpanist the strings were following that line.

It was a hopeless task to change the drumhead in complete silence, and at one point there was a metallic clank as the loosened hoop hit the edge of a music stand. The maestro's sound technician, Friedrich Schnapp, glared up from his cockpit to the side; he had heard it. Now he saw their situation and grimaced at them fiercely. His gaze darted back and forth between his monitors and them. He looked desperate for a cigarette, he always was, but the Führer didn't like smoking and the maestro neither, so there was no chance of that until the whole thing was over. Schnapp chewed his moustache instead, and Günther and Jürgen pulled the new head over the drum, then placed the hoop over it, after which they screwed it down in careful half turns, moving around the drum opposite each other. He would have to tune the new head while playing, alas, unless he could risk tapping away sotto voce before his part began. He had done that before once or twice when the piece itself called him to do

it. The maestro had heard these little additions to the score and tipped his head to the side as if considering whether such a thing was permissible; and then more than once had *conducted* the transgression, the tip of his baton making little gestures as if to say, If you are going to be so bold, I am not necessarily opposed in theory; but you must be conducted. So he could tune the drum that way on this misbegotten Walpurgisnacht, and the maestro would understand—or not—in which case he could explain the situation to him later.

Despite his focus on their silent handiwork, some inner part of him was also persisting with his rosary; apparently this music now triggered it in him no matter what else was happening. So, his mother. How he missed her. How hard she had worked. A baker who had raised her son in her bakery, while her husband was out on the road or in the bars. The main impression of her that remained with him was how hard she had worked. Even as a child he had been impressed by that; even now, remembering it, awe filled him. No one he had ever known since had worked as hard. Now she had been dead twenty-eight years.

Then his father, his crazy father, who had been too old even for the first war, and yet nevertheless was now working as a truck mechanic on the eastern front. Recently he had been in Berlin on a leave and taken his son out drinking, and regaled him with stories of what it was like to be the only mechanic on truck convoys numbering in the scores of vehicles, with just him and a road engineer named Matthias to keep things moving. Every trip is the fucking *Iliad* and *Odyssey* combined, boy, the roads have been destroyed and we're always axle deep, and last time out Matthias wasn't along and trucks were sliding into ditches and canals, jack-knifing, you name it, and we'd drive up and get out and they would look at me! And I would look at the mess and think, Please, Matthias, *speak* to me now, *be* with me now, what would you *do* with this ridiculous mess—and I swear to you, Günther, I swear to God, I swear by your mother, that Matthias *would* speak to me! And I would tell everyone what he was saying, tell them to do things I had never seen or heard of! It was Matthias inside me, speaking through me. We would fix the mess and on we would go. We're all inside each other, boy. We can call mind to mind, you can hear it if you listen.

I know, the timpanist had said. It's like that when we play.

But he could see that his father believed it literally. It was funny to think that the fate of the entire Russian campaign, in other words of the war itself, rested on the shoulders of a sixty year-old mechanic who heard voices in his head.

Furtwängler flowed on. He was taking the adagio even slower than usual, no doubt as a rebuke to Goebbels and his gang. You people are

here for the fire and glory of the other movements, Furtwängler's tempo said, but I'm not going to hurry for you. Now you're the captives, caught by Beethoven, and the music that we bathe in is precisely the world that you have taken away from us. This is the meadow in the forest, this is Sunday at dawn in the clean washed street. This is the flow of slow time, the empty hour, contemplation itself. These are the things you have taken from us with your vicious stupidity. Listen and remember, if you can. If you ever knew.

The theme was very like a hymn, and they played it that way, sure. They were praying now, they were singing a devotional. But the devotional that you sing when you are twenty-three and have just been hired as a double bass player in the Berlin Philharmonic, is very different from the devotional that you hum in the Untergrund when the Lancasters growl overhead. It was the latter they sang now, both rebuke and consolation, the mix ultimately some kind of deep ache for the world they had lost. It would never come back.

Plucked emphases from the basses formed a perfect cover for him to tap the D drum around the rim and check the tuning. It seemed all right. As a totality it was perhaps a bit sharp, but it was consistent, and he could pedal it down and all would be well.

Now he came to the similar light taps that were actually written in the score. How Beethoven had loved pulse, no composer before him and few since had ever thought to use the timpani in this way. Schnapp still glared at them from his cockpit; they definitely had made some noise during their operation, but as there were people in the audience coughing from time to time in helpless little explosions, it did not seem to the timpanist that it could matter much. He focused on his part, the gentle tapping in time with the tune. When else did he ever get to sing like this? It was such a sweet and peaceful thing.

But then, a light bang: the end was nigh. Slower than ever, as the coda declared itself; even there he got to tap along, gently gently. Then the solid thumps at the end; but not the end (another little joke); but then the end.

Fourth movement: Presto Ode to Joy

From the first shot of the finale they were cast immediately back into the violence of the first and second movements. His big copper drums were fully involved in that, simply *smashing* people back into reality and the war. The brief recollections of the first three movements made their truncated appearances each in turn, but each then mutated back into the war. The conflict swirled, thundered, sucked them all back down. All this

dark re-announcement of the world was soon to be broken by the sound of the human voice, the hoarse shout of a man. But for the moment darkness was all.

Then the famous theme, the raw material they would be wrestling with for the next half hour, came into the world as a kind of feeling in the stomach, a mere whispering from the basses. The maestro liked this very pianissimo, and as usual he had arranged for the choir to come onto the stage during this first enunciation, so that the singers' little coughs and the unavoidable creaks of their feet on the risers were almost as loud as the basses, which made Schnapp glower; but the maestro liked it that way. The first time through, he would say, it's supposed to ghost into you.

So the Bruno Kittel choir shuffled in, as quietly as they could; and as they did (it took a while) the strings picked up the great tune and carried it and its most basic descant up into consciousness, rising then like a wave to break into the brasses. Now standing all around and behind the timpanist was a crowd of people, men and women ranked on risers. Easily a hundred women there to his right, in their white blouses and perfect hair—their presence palpable, their scent a mix of shampoo and sweat that smelled to him like bread. Now the whole nation was the band.

The quartet of soloists stood up together, down there to Furtwängler's right. *Not these tones!* the bass singer bellowed, and they began the immense and unstable mix of vocal and orchestral that would surge thereafter around the stage. Meanings ricocheted out of the strange lyrics: something better *had* to exist, they seemed to say, or they would make it out of nothing; this is how he interpreted it, and the phrases often matched that feeling. Then the whole choir jumped in with the bass, saying the same lines: and they were well launched on the tumultuous ride of the great finale.

The structure of the movement made for many moments and passages complete in themselves, each section a kind of continent they were to traverse. It was not quite a tone poem, but rather a set of variations so various that they were hardly recognizable as such; still the great tune lay inside each one of them, concealed within inversions, reversals, textual changes, tempo changes—every kind of change deployed, every kind of magnificence revealed. Keeping the order and flow between the sections was part of the maestro's job, and one aspect of his genius.

Among other things he had taught them that when the quartet of soloists sang, they had to dampen their sound to make the four audible to the listeners in the hall. He was very insistent on this dynamic modulation, and they had learned to play in a mode that might be called *piano furioso,* a intense mode which kept the music and the players on fire without overwhelming the soloists' sound. The orchestra was better

at this than the Kittel choir, or so it sounded to the timpanist; when choir and soloists were both singing, the soloists could not possibly be heard over their massed ensemble. Maybe it didn't matter. They were all singing the solos in their heads anyway, hearing them the way his dad heard Matthias.

Surely there could be no one happier than a timpanist in midst of this finale. He was asked to bang, thump, grumble, pound, tap, roar. He drove the music, punctuated it, played in it; it was as if Beethoven had been concerned to make him joyful. The so-called Turkish variation, with the tenor's solo in it, went off with jaunty gaiety, his fellow percussionists clanging away like drunken Ottomans. And the tenor was very fine. Every quartet had its best member, and this time it appeared to be the tenor, one Helge Roswange, whose voice had a friendly and even noble tone. Unfortunately his solo's final flourish, his leap to the sky, was completely overwhelmed by the choir. One had to hear it like Beethoven had heard it.

This led to the solemn chords of the passage in which the choir sang very slowly. *Over—the—stars*, and so on. That too went well. Again a prayer. The women's voices were an unearthly sound, there was no instrument that could match that sound for sheer beauty.

On they moved, as if through rooms in heaven; and as each part of the symphony had gone so well, as well as any of them had ever heard it, the stakes were somehow raised, their spirits were raised; they became exhilarated. He could hear very clearly that the choir was as caught up by this as the instrumentalists: their voices, my Lord! All were caught together in something tremendous, flying up into it; and Furtwängler was alive to it, he was pulling it together for them to hear and sing. On his face they saw: if they made it beautiful enough, they might leave the planet altogether. Oh they were culpable, yes, but they had not intended it. Suffering had driven them to it. They had gone mad, but in their madness made this. What if the worst culture made the most beautiful thing, what then? Wasn't it then more complicated than people thought? It would at least be a conundrum forever, people would look at the film and listen to the tapes and hear this music and take pause, see birds in a cage, hear that not everyone had been suborned, that some had had to stay and fight from within as best they could, with whatever they had, even if it was just to make a music so beautiful that it would remind people hunched by their radio that there was a better world.

Then there came the timpanist's favorite part in the entire symphony: the big fugue marked *Allegro energico, sempre ben marcato*—a braided fugue in which different parts of the choir split first into two parts, then moved on to other melodies while new voices took up the original pair, after which the orchestra also broke into sections and joined either one

vocal part or another, while violins and basses also tossed back and forth a rapid obbligato, above or below, or both at once. Large groups of people therefore were simultaneously belting out tunes entirely distinct and different from the rest— *Joy, beautiful divine spark, we are intoxicated with fire as we enter your sanctuary— All men become brothers wherever your gentle wing reposes—Do you have a presentiment of the eternal, O world? Seek it above the starry tent! Over the stars it must dwell!* —all these phrases overlapping in the same time and space, and yet the weaving lines made something massive and right, a polyphony with so many interlocking melodies that the timpanist could not believe that Beethoven in his deafness could really have imagined what it would sound like, he must only have seen it as a pattern on the page, a hope in him, a hope now filling the hall, a magnificent chaos that was not chaos—he got to emphasize this on his drums—out of *chaos* emerged *order*, out of *chaos* emerged *beauty*, a beauty so complex it could not be comprehended. This must be the passage, Günther thought, as he always thought when playing it, where Beethoven had gotten confused during the premiere performance. The old man had sat on the stage next to the conductor, trying to help with tempi, but had lost his place, and the conductor had forged on without him; and when it was all over and the audience clapped and cheered, Beethoven had sat there still facing the orchestra, his back to the audience, deaf and unaware, perhaps disconsolate at losing his place; and so the soprano, Fraulein Unger, had gone to him and taken his hand and turned him around so he could see the audience, who then began leaping in the air to show him how they felt. *This* was his country, *these* were his people, the nation of musicians, sovereign even in chains. *Wherever your gentle wing reposes. Whoever has become a friend of a friend.* He pounded this feeling home at the fugue's end, just as Beethoven required of him.

Now their faces were all flushed. Red-faced, bright-eyed, they kept their gazes fixed on the maestro or their sheet music, as if to look around might reveal something unbearable. Intently the choir whispered the tip-toe section that followed, rocking back and forth, the whispered staccato *seek it—above—the star—ry tent* before the sudden shouts, *Brothers! Brothers!* Back and forth, whisper shout, whisper shout, such fun to do, all winding up for the final run through the Ode to Joy, when every instrument and voice played the theme in unison for the first time, this a reversal of the fugue from just moments before, all now shouting the one tune together as loudly as they could. Two hundred strong—he had never heard music this loud in his life. The performance just kept on getting better, they all heard it, it seized them up and carried them off!

The final quartet of the soloists came at last, sign of the approaching end: a curious gnarled thing to the timpanist's ear, like four lines of wool

all kinked in knots; but with the gorgeous high turn of the soprano at the climax, that downward bend on the word *wing— Where your gentle wiiiing alights.* Where grace comes down and touches our soul.

The moment the soprano finished her last words, *dein sanfter Flügel weilt,* Furtwängler rushed them through the complex coda, he *drove* them. First very fast, in a real hurry—then the final ritard, for the toppling off the cliff of the voices, the falling fifths again—at the bottom of which he redoubled the pace to something quite inhuman. Always he did it this way, "go like a bat out of hell," he would say, but never so fast as on this night of nights. Even at his usual tempo the piccolo player was forced to play with supernatural speed and volume, but on this night Frans had to simply throw his hat to the wind and skreel like a maniac, and the timpanist had to strike every note of it with him, and he did!

Then they stood there, still inside the reverberations of the final chord, still ringing with it. The timpanist listened, quivering, his eyes fixed on Furtwängler's face. In the silence certain to follow, everything that so horribly portended would come to pass, all that hung over this night like a sword—their ongoing crime, the inevitable judgment, death itself—none of it mattered. They were gone.

Pippilouette's Story

Pippilouette's story by the fire, near the Ardeche river, 32,000 years before present. Also from *Shaman*.

I am a traveler as you know,
I walk the surface of mother earth
And so do my fellow travelers
Each of us his own path.
And some of us repeat our paths
As long as we can find them,
And nothing makes us take a different way.
I am one of those myself,
Having a wife with my brother,
And he goes out when I'm at home,
And he doesn't like it when I'm overly late
Although both of us have been delayed
Once or twice through the years.
What this means for me is I go out east
To the gate between worlds
And then turn north and walk for a fortnight,
Right up to the edge of the great ice cap,
And come back just under that great white wall
Or sometimes up on the ice itself
If the summer melt has made the land next to the ice
Impassable. West I return and south
Across the steppes to home, using paths
Of my own that no one knows, the best ways of all.

That's the way it is for me, but in my travels
I meet other men out walking the world,
And some of them have neither circuit nor home
But wander always a new way. These men
Are curious people, odd in their ways and speech,
But interesting for that, and we talk.
Always when travelers get together over a fire
We talk. You can see that right now, I know.
And travelers together talk about traveling. Where have you been?
What have you seen? What are people like?
What's out there in this world we live on?
These are the questions we ask and the stories we tell,
And some travelers travel to find the answers
And tell new stories to those they meet.

One such I met this summer, at the farthest east
Of all the places I go. This man looked like
The northers and I could barely understand him,
But I could, and it got easier as we talked
Because he had only one thing to talk about,
Which was this world we live on, its shape and size.
All travelers agree, for we've seen it ourselves:
There is ice to the north, wherever you go,
And to the west is the great salt sea,
And to the south, again the salt sea,
Although warmer and more calm,
More in and out, and dotted with islands.
We all agree on this, we travelers,
As between us we have seen it all,
And some travelers claim to have seen it all
Themselves alone. Good. Maybe they are even
Telling the truth. I can't say. But here's the thing:
What about east? This norther man
Was like a lot of us, he had that question
And more than that: he wanted to know the answer.
And no one had it.
So he took off walking east, he said.
He walked for days, he walked for months,

He walked for years. He walked east from the time
This question had come to him, in his youth,
And he kept on walking until he was a man in the middle of life.
Seventeen years, he said, he walked east.
I asked him what he had seen on this life walk.
He told me of steppes that went on forever.
There were mountains like those to the west of here,
And some lakes bigger than any I've seen,
Little salt seas even, their water was salt, he said,
But mostly it was steppes.
You know what that's like. The walking is good
If it isn't too wet, and there are always animals to eat.
So there really was no impediment to him.
Yet there he sat, across a fire from me,
As far to the east as I had ever been,
But it was only the gate of worlds, a nice broad pass
Between low mountains to north and south.
It had taken him twelve years to walk back
To where we were. This he told me.
Finally I had to ask him: why did you come back?
Having gone so far, why turn around?
Why not keep going for the rest of your life?
He stared into the fire for a long, long time
Before he met my eye and answered me.
When I was as far east as I got, he said,
I came to a hill and went up it to look.
I was feeling poorly and my feet hurt,
And no person I had met for several years
Spoke any word I understood. All my dealings
Were done by sign, and you can do that
And still get by, but after a while you want a word
With the people you see. I Pippi could only agree to that!
And so, he said, he stood on that hill, and all to the east
Was just the same. There was no sign at all it would ever change.
I realized, he said, that this world is just too big.
You can't have it all, no matter how much you want it.
It's bigger than any man can walk in one life.
Possibly it just keeps going on forever.

Possibly our mother earth is round, he said then, like a
pregnant woman
Or the moon, and if you walked long enough
You would come back to where you started,
Assuming the great salt sea did not stop you,
But really there is no way to know for sure.
And so I turned around, he said, because the world is too big
And most of all, I wanted to talk to somebody again
Before I died. Having said that, having told his tale,
We stood and hugged, and he cried so hard
I thought he would choke. I had to hold him up.
Whether he had succeeded or failed in his life walk
He did not know, and I didn't either.
After that he calmed down, and we looked at the fire
Until long in the night, telling other stories we knew.
Before bed I asked him, So what's for you now?
What will you do, now that you're back?
Well, he said, I'm thinking I may take off east again.

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—Kim Stanley Robinson
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—David G. Grubbs

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"Stan's Kitchen" by Michael Blumlein is original to this volume.

"The Part of Us That Loves" first appeared in *Full Spectrum 2*, ed. by Lou Aronica et al., Bantam Books, 1989.

"'A Story,' by Kim S. Robinson" was commissioned by Peter Crowther as an introduction to *The Very Best of Gene Wolfe*, PS Publishing, 2009.

"Notes for an Essay on Cecelia Holland" first appeared in *Foundation*, ed. by Ian Watson, issue 40, Fall 1987.

"Introduction to *The Female Man*" first appeared in *The Cascadia Subduction Zone*, July 2014, requested by editor Nisi Shawl.

"Lem In California." This is the essay's first appearance in English.

"*Animal Farm* in 1992" first appeared as "Introduction" in the Easton Press edition of *Animal Farm*, 1992.

"Introduction to *Ubik*" was commissioned by Tom Walker of the Folio Society, and appeared in the Folio Society edition of *Ubik*, by Philip K. Dick, 2019.

"Happy Birthday Ursula" first appeared in *80! Memories and Reflections on Ursula K. Le Guin*, ed. by Karen Fowler and Debbie Notkin, Aqueduct Press, 2010.

"Delany Considered" is first published here. The talk was given on September 1, 1990. First transcript by Doug Fratz.

"Vinland the Dream" first appeared in *Isaac Asimov's Science Fiction Magazine*, November 1991.

Six Poems from *If Wang Wei Lived on Mars* first appeared in *The Martians*, Harper Voyager and Bantam Books, 1999.

"Discovering Life" first appeared in *Collectors Edition*, a small promotional anthology from Harper Voyager, then in the paperback edition of *The Martians*, Bantam Books, 2000.

"How To Predict the Future" first appeared in *Scientific American* as "What a Science Fiction Writer Knows About Predicting the Future," September 12, 2016.

"What Can't Happen Won't" first appeared as "Our Generation Ships Will Sink" in *boingboing*, ed. by Cory Doctorow, November 16, 2015.

"Arthur Sternbach Brings the Curveball to Mars" first appeared in *The Martians*, Harper Voyager and Bantam Books, 1999.

"Dystopia/Utopia" first appeared in *Commune #3*, online magazine, Summer 2019.

"Enough Is As Good As a Feast" first appeared on August 15, 2018, on the University of Plymouth (UK) blog "Imagining Alternatives."

"Source of the Peach Blossom Stream" is from *Red Moon*, Orbit Books, 2018. There are more than a dozen translations of this poem into English that can be found in books and online, and I consulted as many as I could find before making Ta Shu's "translation". The last line is taken directly from the translation of my teacher Wai-lim Yip, to be found in his fine book *Hiding the Universe*, a collection of Wang Wei's poems in Yip's English.

"Six Day Poems from the Widow Kang" are from *The Years of Rice and Salt*, Bantam Books, 2002.

"Prometheus Unbound, at Last (And None Too Soon)" first appeared in *Nature*, August 11, 2005.

"*The Worst Journey In the World* Revisited." A shorter version of this essay appeared in *Smithsonian* magazine, December 2017.

"Introduction to *In the Sierra: Mountain Writing by Kenneth Rexroth*" first appeared in the book of the same title, New Directions, 2012.

"Somewhat Lost" first appeared on *slate.com* as "The Map Is Not the Territory," September 5, 2013.

"Naming Mount Thoreau," first appeared in *Naming Mt. Thoreau*, (as "Naming Mt. Thoreau"), ed. by Laurie Glover, Artemisia Press, 2017. Another version of the essay appeared on *slate.com* on October 22, 2014.

"Kistenpass" first appeared in *Flurb 4*, ed. by Rudy Rucker.

"Zürich" first appeared in *The Magazine of Fantasy & Science Fiction*, March 1990.

"Oral Argument" first appeared on *tor.com*, ed. by Beth Meacham, December 7, 2015.

"Seven Shaman Songs" are from *Shaman*, Orbit Books, 2013.

"The Timpanist of the Berlin Philharmonic, April 1942" first appeared in *The Best of Kim Stanley Robinson*, edited by Jonathan Strahan, Night Shade Books, 2010.

"Pippilouette's Story" is from *Shaman*, Orbit Books, 2013.

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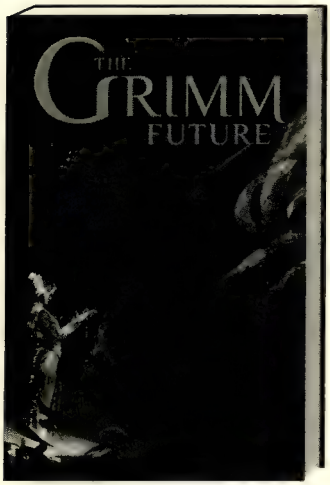

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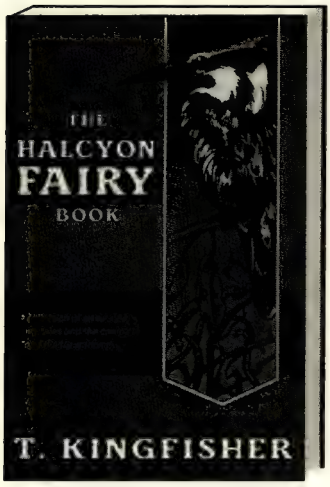

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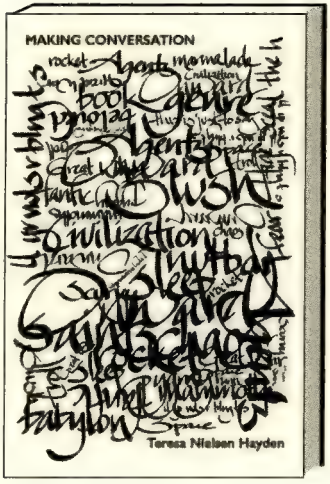

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by Teresa Nielsen Hayden

Twenty-two years ago, there was *Making Book*. It was a finalist for the 1995 Hugo Award for Best Nonfiction Book, but lost out to the dead guy. It's been through three printings and is still available from NESFA Press.

Making Conversation is available from NESFA Press in softcover and ebook form. 222 pages, 59 essays (long and short) about time, space, genre, editing, gardening, saints, libraries, food, democracy, drink, insanity, fear, hamsters, chaos, moderation, palimpsests, fanfic, clichés, books, slush, spelling, scams, sleep, fantasy, policing, infundibula, trolls, writing, knitting, fandom, habaneros, exposition, management, Selectrics, Brooklyn, literary agents, pygmy mammoths, and the true cure for scurvy.

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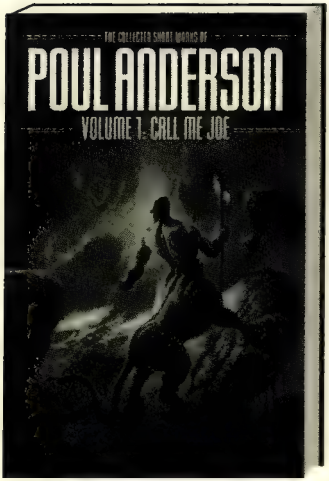

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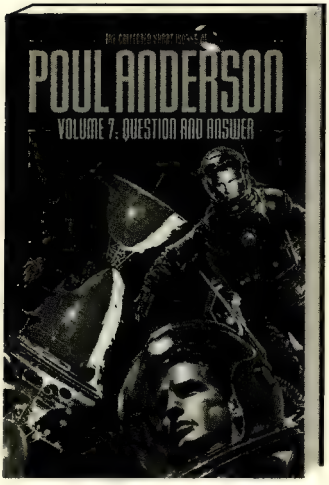

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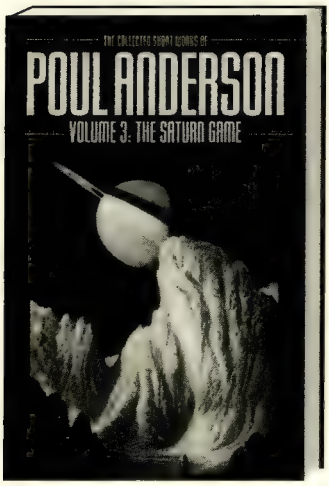

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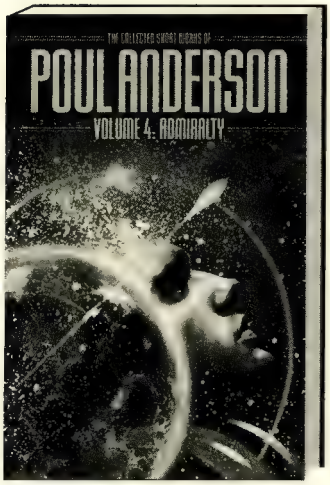

Admiralty: Volume 4 of the Collected Short Works of Poul Anderson

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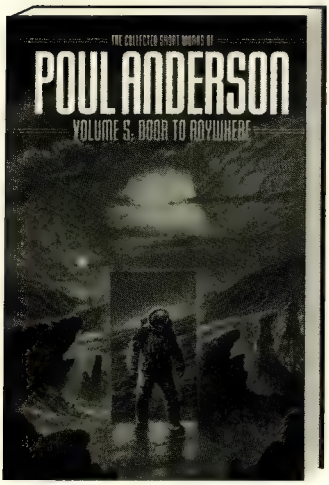

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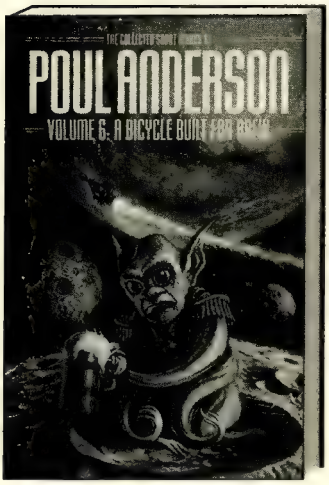

A Bicycle Built for Brew: Volume 6 of the Collected Short Works of Poul Anderson

A Bicycle Built for Brew mixes beer, a talking parrot guaranteed to repeat phrases laced with 4-letter indignities, a romance between an English lass and a Scottish soldier, and the need to communicate the fact of the invasion to authorities on a nearby asteroid in a very humorous tale. The original version of *Three Hearts and Three Lions,* long unavailable except in the 1953 magazines, in which Holger Carlsen, fighting the Nazis, is transported to a world where magic works and a growing battle between good and evil is raging. *Silent Victory* in which Mars has defeated Earth in a war but things are never that simple. "Territory" features Nicholas van Rijn, *A Plague of Masters* features Dominic Flandry, and *The Snows of Ganymede.*

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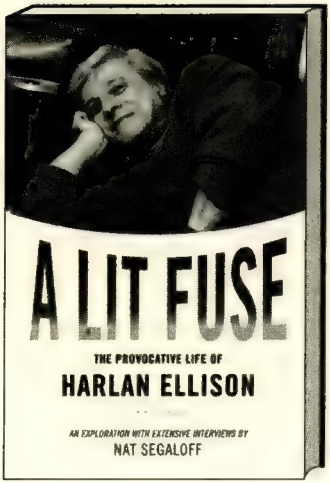

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In late 2011 Harlan Ellison—the multi-award-winning writer of speculative fiction and famously litigious personality—did two uncharacteristic things. First, he asked biographer Nat Segaloff if he'd be interested in writing his life story. Second, he gave Segaloff full control. The result is the long-anticipated *A Lit Fuse: The Provocative Life of Harlan Ellison.* The expansive biography, which is the first such project in which Ellison has permitted large portions of his varied works to appear, is published by NESFA Press.

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Stan's Kitchen • Kim Stanley Robinson

Kim Stanley Robinson is a *New York Times* internationally bestselling author of twenty novels and nine story collections (including this one), in twenty-five languages. Those works have also won him twenty-seven literary and professional awards. His novel *2312,* published 300 years earlier, was nominated for all seven science fiction awards and won the Nebula award that year. He was hailed as one of the greatest living science fiction writers by the *The New Yorker* magazine.

But Stan (as he's known to his pals) is not just a writer. In 2008, he was named a "Hero of the Environment" by *Time* magazine. In 1995, he was sent to the Antarctic by the U.S. National Science Foundation as part of their Antarctic Artists and Writers Program, which resulted in his 1997 novel *Antarctica*, and a return to Antarctica in 2016. An avid backpacker and outdoorsman, Stan spends a lot of time in the Sierra Nevadas and is on the board of advisors for the Sierra Nevada Research Institute.

Tom Killion grew up in Marin County, California, where the rugged landscape inspired him to create Japanese-style woodblock prints from an early age. He studied History at UC Santa Cruz, where he also learned the art of letterpress printing, and acquired a Stanford PhD in African History, after which he spent some years working and teaching in Africa. In 1977 he founded Quail Press, which has printed five handmade art books and more than 400 relief prints. Since 2002 he has lived and worked in Point Reyes, California, where he has produced many nature-oriented works, including three collaborative books with poet Gary Snyder.

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